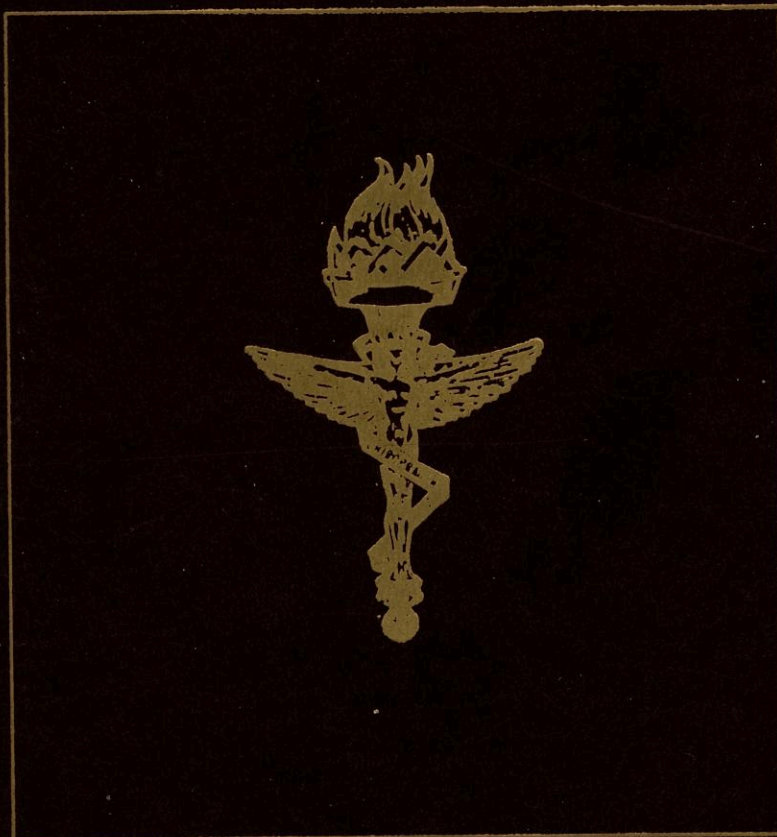

CHIROPRACTIC MALPRACTICE



Peter J. Modde, D.C.

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Hanrow
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**“NUTS AND BOLTS SERIES” IN
PERSONAL INJURY LITIGATION**

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DEDICATED TO
ANN RULE,
A TRUE FRIEND
AND GREAT WRITER
WHO LISTENS WITH
HER HEART AND MIND

CONTENTS

<i>Acknowledgements</i>	viii
<i>The Future</i>	ix
<i>Introduction</i>	xi
1 A Brief History of Chiropractic Medicine	1
2 Chiropractic Education—Past, Present, and Future	2
3 Medical Practices and Responsibilities in Chiropractic Medicine	10
4 Basic Spinal Column Anatomy	19
5 Basic Chiropractic Spinal Adjusting	31
6 Contraindications to Spinal Adjusting	86
7 Standard and Unusual Contemporary and Antiquated Techniques Used by Chiropractors for Diagnosis and Treatment	103
8 Elements of a Standard Chiropractic Work-Up	157
9 Chiropractic and Mental Health; Obstetrics and Gynecology; Proctology and Pediatrics	192
10 Chiropractic and Medical Ethics	205
11 Chiropractic Malpractice	219
12 Alleged Chiropractic Malpractice Cases	249
13 Conclusion	345
Appendix I Chiropractic Research	350
Appendix II Chiropractic Periodicals	352
Historical Background	352
Articles	353
General Textbooks	359
Appendix III Malpractice Case on Appeal	371
Appendix IV A Professional Resume	377
Appendix V Official and Unofficial Chiropractic Specialities	379
Appendix VI State Boards of Chiropractic Examiners	380
Appendix VII Glossary	421
Index	432

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THE FUTURE

THE DOCTOR OF THE
FUTURE WILL GIVE NO
MEDICINE BUT WILL
INTEREST HIS PATIENTS
IN THE CARE OF
THE HUMAN FRAME, IN
DIET, AND IN THE
CAUSE AND PREVENTION
OF DISEASE.

Attributed to Thomas Edison

“No matter how thin you make a pancake, it still has two sides”

Ben-Veniste, Attorney
Former Watergate Prosecutor

It is most necessary to know the nature of the spine. . . .

One or more vertebrae may or may not go out of place very much, and if they do, they are likely to produce serious complications and even death, if (they are) not properly adjusted. . . .

Many diseases are related to the spine. . . .

—Hippocrates

INTRODUCTION

Chiropractic practice—and malpractice—began in Davenport, Iowa, in 1895 when the first chiropractic spinal adjustment was given by Daniel David Palmer to his janitor, Harvey Lillard. Lillard had been deaf since one day, many years before, when he had stooped and felt a “click” in his neck. Palmer felt a bump there and with several harsh thrusts attempted to align it with the cervical vertebrae. His primitive clinical procedure consisted of asking Lillard a few questions, palpating the neck, and making sharp thrusts with his hands. In his definitive text on chiropractic published in 1910, Palmer reported that Lillard arose from the adjusting bench after several successive treatments and said that he could hear the streetcars clanging on Brady Street below the office.

Before Palmer invented chiropractic, he was a devotee of various occult healing practices who vehemently denounced orthodox medicine for wasting time with clinical procedures such as consultation, case histories, physical examinations, and neurological testing. He wanted physicians to abandon this “foolishness” and go directly to healing the sick. Palmer’s disdain for diagnosis became an inherent part of chiropractic of which remnants persist today. It has been a major source of conflicts between chiropractic and established medicine; and has contributed to sometimes-serious mishandling of many patients.

Palmer wanted absolute freedom for himself and for graduates of his school to treat all symptoms with chiropractic techniques, without conforming to prevailing medical procedures. Many early court decisions show that he and his disciples were often successful in establishing themselves outside of medical standards and the clinical responsibilities of medical men. Only in recent years have courts in most states demanded close correspondence between practice privileges and responsibilities. •

As chiropractors increasingly claimed that they were capable of acting as first-contact physicians, the courts began to demand that they conform to established medical standards of consultation, diagnosis, examination, and referral. Many chiropractors have fought this legal regulation, and for more than 40 years the issue has created confusion and controversy in the medical/legal arena.

Today this “twilight zone” of healing, in which some chiropractors claim the designation of general practitioner but eschew the attendant responsibilities, seems ludicrous and beneath the dignity of the profession. Recently chiropractic education has become more general and comprehensive, covering many orthodox medical techniques. Leaders of chiropractic see the profession moving toward a primary health-care role in the total health-care system. Given this progression, it is evident that chiropractors must follow orthodox medical procedures, including examination, diagnosis, consultation, and referral.

The chief purpose of this book is to define chiropractic malpractice within certain parameters. The malpractice cases presented, all of which actually took place, are not intended to depict what routinely occurs in chiropractic offices, but to show what happens when accepted procedures are either ignored or improperly performed. Fortunately, chiropractic malpractice is the exception, and not the rule.

A BRIEF HISTORY OF CHIROPRACTIC MEDICINE

1.1 Ancient Origins

Chiropractic derived from two Greek words, *kheir* and *praktikos*. *Kheir* means of or with the hand; and *praktikos* means effective or practical. Linked together, the two words mean done by hand, done skillfully.

Modern chiropractic began with Daniel David (D. D.) Palmer, born March 7, 1845, in a log cabin in Canada. Palmer's father was a frontier shoemaker of English and German extraction who inspired independence in his children at an early age. Dr. Joseph Maynard, an early Palmer School graduate and author of *Healing Hands*, a story of the Palmer family, describes Palmer as an independent, curious child who played with his animal skeleton collection while other children played with toys. According to Maynard, Palmer once cured his mother's headache by massaging her brow, and apparently her pronouncement that he had "magic in his hands" planted the seed for what was to become a full-fledged philosophy and practice of healing.

Palmer's "new science," which he introduced to the world in 1895, was known to the Greeks, the Egyptians, and the Hindus more than 30 centuries ago. For many years, the Chinese have rubbed the bones of the neck with a copper coin to ease nerve ailments. The Incas and Aztecs and other American Indians have used their hands for curative purposes. Among the most ancient references to chiropractic is an Egyptian papyrus dating to approximately the seventh century B.C. Translated by the late Professor James Henry Breasted, it describes the treatment of spinal dislocations by manipulation. Indeed, rock carvings made centuries ago in Egypt show healers placing their hands along the spinal column.

Hippocrates, the father of healing, claimed to understand the importance of the spinal column to health, proclaiming, "Look well to the spine for the cause of disease."¹ He observed that "one or more spinal vertebrae go out of place, not very much from the rest, but just slightly one gives way from the other. These vertebrae, one or more, do not have to get out of their place very much in order to produce discomfort to the patient, but if one or more do go out of place very much, this may cause death."²

The systematic teaching of “chiropraxy,” as it was originally called, was undertaken by the Thessalonians and the priests of the mythical demigods and heroes of Greece and Rome. Aesculapius, the Roman version of Asclepius, the Greek god of medicine, and Chiron the centaur were supposedly the first instructors in the arts of classical medicine. Through their followers, the various therapeutic methods belonging to chiropractic have been transmitted to all mankind.

It was not until early in the 17th century that chiropractic was rediscovered by the great French mathematician and philosopher Descartes. He emphasized the importance of the nervous system working through muscles in reaction to environment.

1.2 Modern Chiropractic—the Palmers

Modern chiropractic began with D. D. Palmer. As a young man, Palmer was a successful grocer and merchant and a voracious reader on medicine, world religions, and philosophies of healing. After the loss of his wife at his mid-life, he left the business world to become a magnetic healer. Mesmerism or “animal magnetism,” founded in 1766 by Franz Anton Mesmer, a Viennese medical school graduate, taught that the planets exercised a direct influence upon all body tissues through a mysterious fluid that penetrated all substances, both living and inanimate. This force was supposedly directed through Mesmer’s touch to heal those in distress. Mesmer was phenomenally successful in attracting patients and disciples, but in 1784 a commission under King Louis XVI, after checking his “baquet” or healing tub with an electrometer, declared that it showed no evidence of electrical activity and concluded that the effects produced were entirely the result of imagination. This report had no effect on Mesmer’s popularity and did not in the least discourage Palmer, who had delved into spiritualism, phrenology, charms, and other occult healing methods, from establishing a prosperous business as a magnetic healer.

Palmer’s “laying-on-of-the-hands” practice was thriving as patients lined up to receive energy from his “charged” fingertips. His deaf janitor, Harvey Lillard, changed the course of medical history when he submitted to Palmer’s request to allow him to move a bump in his neck. Harvey had told Palmer that one day he bent over, felt a “pop” in his neck, and from that moment on was unable to hear. Harvey allowed Palmer to thrust on the bump a few times, and after one such treatment, told him that he could hear the streetcars clanging on Brady Street below.

After this success, Palmer formulated a philosophy of healing stating that all disease was a result of blockages of “nerve flow” between brain and tissue by vertebral misalignments exerting pressure on nerves. Thus chiropractic was born. About 1897 Palmer opened a school, using R. V. Pierce’s 1,000-page *People’s Common Sense Medical Advisor*, also known as *Medicine Simplified*, as his major textbook. One of the first graduates was Bartlett Joshua (B. J.) Palmer, his son, who later took over the institution probably in 1906 when Palmer left town to avoid creditors. Bartlett Palmer, a consummate promoter and shrewd businessman, built the school into a multimillion-dollar business. He passed it on to his son, another Daniel David Palmer, who in the ’60s relinquished control and established it as a nonprofit educational institution.

The elder Palmer defined his “new science” as follows:

Chiropractic is the name of a systematized knowledge of the science of life—biology, and a methodical comprehension and application of adjusting anatomical displacements, the cause of biological abnormalities: also an explanation of the methods used to relieve humanity of suffering and the prolonging of life, thereby making this stage of existence much more efficient in its preparation for the next step—the life beyond.³

Palmer admitted that he was not the first to manipulate the spine, but stated that he was the first to realign vertebrae, using spinous and transverse processes as levers. He declared that all disease processes

could be reversed by chiropractic means, and despite intense medical opposition his “new science” flourished under his son. Proclaiming that all illness would succumb to his new therapy, Palmer instructed his students to attack diseases that baffled the best in medicine. Cancer, food poisoning, malaria, heart disease, syphilis, and every other disorder were treated with one therapy—spinal adjustment. This cure-all philosophy led chiropractors into the practice of medicine and medical malpractice on a large scale.

In 1910 the elder Palmer published his definitive work on life, chiropractic, and healing—a 1,000-page book entitled *The Adjustor*. He died three years later in a Los Angeles hospital of nephritis.

1.3 The Chiropractic Philosophy

Early opponents of chiropractic accused Palmer of stealing his concepts from Andrew Still, M.D., founder of osteopathy, and there is some direct evidence to support this accusation. Palmer was a student of Still and he learned the physician’s theory that subluxated, or slightly misaligned, bones adversely affected body metabolism by interfering with blood supply to the cells. Still taught that manual manipulation would restore the bones to their proper relationship, thus freeing arteries and veins from impingement and allowing the blood to flow freely and cellular healing to transpire. Palmer must have listened carefully; soon after attending Still’s classes, he merged his mystical, metaphysical concepts with the joint-impingement theory of his teacher, except that he theorized that “nerve tone,” not vascular integrity, was the function to be restored.

Osteopathy and chiropractic share at least three points: both are founded on the ideal of structural integrity of joints free from subluxations or misalignments; both tout manual manipulation as a cure-all; and neither has been scientifically proven to be based on sound anatomical or physiological hypotheses. Practitioners of both groups treat patients with various medical conditions, but subjective patient reports do not, of course, prove the basis of the cure.

To establish himself as the true leader in chiropractic, B. J. Palmer began teaching that foraminal encroachment, a closing down of the foramen between spinal vertebrae impinging spinal nerve roots, was the cause of interruption or shutdown in “nerve flow”—not irritation caused by vertebral processes outside the foramen, as the elder Palmer believed. Daniel Palmer never claimed that subluxations, or slight misalignments, could impinge spinal nerves, and he scoffed at those, including his son, who taught this theory. Palmer senior understood human anatomy, and was fully aware that nature had supplied ample room and more than enough fat and soft connective tissue to protect the spinal nerve roots from encroachment in all but major joint disasters, such as fractures, dislocations, and extensive osseous spurring projecting into the space. He taught that vertebrae could jam in a misaligned position and impinge nerves, but not spinal nerves. Daniel Palmer believed the irritation that interrupted “nerve tone” took place outside the foramen when the lateral vertebral parts, such as the lamina and pedicles, pushed against fibers branching off the spinal nerves to the sympathetic chain ganglia. Contrary to B. J. Palmer’s theory, which dominates modern chiropractic, the elder Palmer stated that this irritation produced *excessive*, not reduced “nerve flow,” which disturbed normal cellular metabolism.

Modern chiropractic educators have attempted to expand upon the “nerve-pinch” theory, but to date not much has come of their efforts. Today Chiropractic is essentially what it was when the Palmers taught it, with the addition of various medical modalities used in diagnosis and most of what is used in modern physical therapy.

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CHIROPRACTIC EDUCATION— PAST, PRESENT, AND FUTURE

Every chiropractic college teaches physical examination and diagnostic procedures and examines (or tests) in physical, clinical laboratory and differential analysis, in addition to chiropractic analysis.¹

2.1 Early Education: The Six-Week Course

During the late 19th and early 20th centuries, chiropractic educators turned students loose on the public after a six-week cursory course, primarily in spinal palpation with an umbrella of spiritualism, religious concepts, naturopathy, mysticism, homeopathy, and osteopathy. Each of the numerous schools borrowed from other disciplines, often taking the teachers as well as the knowledge. Many earlier graduates were chiropractors' patients who believed they had miraculously recovered from various incurable diseases. Ministers, bone-setters, psychics, naturopaths, renegade medical doctors, and osteopaths roamed the hallways of these institutions, each with his own particular brand of chiropractic, teaching bizarre concepts under the rubric of the "new science" founded by David D. Palmer.

There was little agreement among schools except that orthodox medicine failed to answer deeper questions about healing and that they had come upon the practice of removing "nerve interference." While they retained some of the forms of orthodox medicine, chiropractors repudiated drugs and surgery, which they considered cruel and inhumane. Nor was this conviction at all unreasonable. Early physicians had little education, few effective medications, no accurate theories, and no scientific method. Like some of the first chiropractors, they were involved in every conceivable form of quackery. Many traveled from town to town, peddling occult mechanical devices, and nostrums and panaceas of negligible virtue but high alcoholic content. It was not until the late 19th century that the profession underwent a revolution and modern medicine was born.

2.2 Reorganization: The Council on Chiropractic Education

If chiropractic education had been left to B. J. Palmer, the requirements would have been limited to six weeks of resident study devoted to learning chiropractic philosophy, spinal palpation, and vertebral

adjusting. In the 1930s, pressure from within and without the profession forced some reorganization to prepare graduates to confront more than basic spinal mechanics. By 1941, 12 schools had received provisional approval from a chiropractic committee on educational standards. In 1947, the Council on Chiropractic Education (CCE) was organized by school representatives and members of the standards committee. It was incorporated in 1971 as an autonomous national organization to provide educational guidelines, set criteria of institutional excellence, and require inspection and accreditation of chiropractic colleges. In 1974, CCE obtained recognition from the United States Commissioner of Education as an authority on chiropractic education. In 1976, CCE was also recognized by the Council of Post-secondary Accreditation for its accreditation of educational programs leading to the degree of D.C., Doctor of Chiropractic.

2.3 The Academic Program

2.3.1 Requirements for Admission

The current minimum CCE requirement for admission to an approved chiropractic college is two years or 60 semester hours leading to a baccalaureate degree in the arts and sciences. Laboratory courses in biology and chemistry are required, making the prechiropractic program roughly equivalent to the first two years of a premedical program. The four-years of professional school required by CCE must be over a minimum period of eight semesters or the equivalent, totaling not less than 4,200 hours. Many schools now grant a BS in biology or some aspect of the health sciences upon completion of the first four years of the six-year program.

2.3.2 The Curriculum

The curriculum is designed to provide a thorough understanding of the structure and function of the human organism in health and disease. According to one brochure published by the Council on Chiropractic Education, it “. . . provides a means for identifying deviations from normal structures and function, while providing the essential facts required for diagnosis, prognosis, and treatment of disease.”²

The academic program leading to the Doctor of Chiropractic resembles a medical-school curriculum without the major courses in internal medicine, pharmacology, and surgery. Most major medical textbooks are used in chiropractic schools, but the emphasis is on the clinical subjects related to the conservative management of structural disorders as opposed to drug or surgical treatment for specific diseases. A Palmer College manual includes courses in:

- Motion Palpation
- Emergency Procedures
- Sports Chiropractor
- Radiographic Study of Tumors and Tumorous Conditions
- Chiropractic Pediatrics
- Upper Cervical Specific
- Scoliosis
- Clinical Lab Interpretation
- Chiropractic Thermography
- Extremity Adjusting
- Nutrition in Chiropractic³

A more liberal college offers similar courses:

- Neurological Exam Procedures
- Physiotherapy for the Orthopedist

Physical Examination Procedures and Diagnosis
Clinical Laboratory: Procedures and Diagnosis
Clinical Myography
Peripheral Vascular Disorders
Impairment Rating
Clinical Electromyography
Meridian Therapy/Acupuncture⁴

The CCE Federation of Licensing Boards has adopted a basic curriculum for chiropractic students. Their standards and course-content requirements are reviewed annually. Subjects requisite for licensing include human anatomy; biochemistry; physiology; microbiology; pathology; public health; physical, clinical, and laboratory diagnosis; gynecology; obstetrics; pediatrics; geriatrics; dermatology; otolaryngology; roentgenology; psychology; dietetics; orthopedics; physical therapy; first-aid and emergency procedures; spinal analysis; principles and practice of chiropractic; adjustive technique; research methods and procedures; and finally, "other appropriate subjects."

"Other appropriate subjects" could refer, for example, to courses in minor surgery, which are taught at some of the more liberal schools. With the advent of CCE requirements and more progressive state laws, even many conservative schools are now teaching at least comprehensive diagnostic procedures.

All approved schools have clinical internships usually commencing during the second or third year. Some have residencies in which senior students can choose a specialty such as radiology for their fourth year.

2.3.3 Postgraduate Education and Residency Programs

Each accredited chiropractic college maintains a division devoted to providing postgraduate education. Many states require a minimum number of "refresher" hours in clinical subjects for chiropractors to maintain licensure. Courses are available on nearly every subject covered during the four-year professional program, with an emphasis on advances and new discoveries in diagnosis and application of chiropractic techniques.

Some chiropractic colleges offer resident programs in subjects such as radiography, orthopedics, neurology, nutrition, diagnosis, and internal disorders. Often these are approved by CCE and cosponsored by one of the national organizations. The latter offer membership in a council related to the subject after the chiropractor has successfully completed written and practical examinations leading to certification and diplomate status. These programs usually comprise 300 classroom hours and extensive individual study. State and county groups offer a variety of lectures, symposia, and workshops in clinical subjects, often utilizing local chiropractors and medical physicians as teachers.

While official chiropractic institutions strive to satisfy their graduates' educational needs, there are a plethora of peddlers in the field who offer courses in just about every medical subject. Many present materials and procedures of unproven status and entice the unwary with promises of quick and easy knowledge and profit.

2.4 The Move toward Orthodox Medical Education

Although D. D. Palmer's philosophy is still very much alive in the schools, it is evident that the chiropractic curriculum is expanding to comprise more and more of orthodox, general medical teaching. This is demonstrated in literature and courses sponsored by such institutions as the National College of Chiropractic and the Los Angeles College of Chiropractic, which for many years have taken the position

that chiropractic education and practice should not be limited to spinal therapy in the form of subluxation reduction. The Los Angeles College of Chiropractic offers a CCE-approved graduate course entitled "Diagnosis and Internal Disorders." This class, which meets one weekend per month for a total of 324 hours, is required for board-qualification as a "chiropractic internist" by the American Chiropractic Association (ACA) Council on Diagnosis.

William A. Nelson, D.C., an aggressive, articulate spokesman for the liberal, progressive faction of chiropractic and past executive director of this A.C.A. Council in a recent telephone conversation from his San Francisco office defined a chiropractic internist as: "A primary health care provider, a family physician, and an alternate to medicine." Subjects covered include:

- Neuromuscular-skeletal Factors in Disease
- Clinical Cardiology
- Circulatory Disorders
- Disorders of the Respiratory System
- Clinical Enterology and Proctology
- Clinical Considerations of Renal and Genito-Urinary Disorders
- Clinical Neurology
- Emergencies in the Chiropractic Office
- EET [Ear, Eye, and Throat]—Diagnosis and Treatment⁵

A paragraph from a subject description indicates that this instruction is not strictly didactic:

The interesting feature of this course is it will place greater stress and emphasis on clinical skills. In the course you will become not only familiar, but experienced in the use of various diagnostic equipment and treatment procedures which can be used in your office. As an example when covering the area on clinical cardiology, the lecturer will utilize EKG equipment and procedures over and over so you will be able to thoroughly and comfortably utilize it in your office.⁶

A 1980 CCE booklet describes the modern D.C. as a primary or portal-of-entry health-care provider, capable of utilizing standard procedures and orthodox instruments of physical and clinical diagnosis.⁷ Thus an orthodox, accredited chiropractic education prepares a practitioner for much more than detecting spinal subluxations. Further, as will be seen in the next chapter, all official chiropractic organizations now accept the chiropractor's choosing to establish himself legally by being a first-contact portal of entry into the health-care system by making a diagnosis, arranging for further medical diagnosis when indicated, and administering treatment or referring for appropriate medical care.

Some independent observers in sociology, medicine, and psychology have said that this gradual "blending into general medicine" will carry chiropractic along the path osteopathy has traveled, and ultimately will result in its absorption into medicine. Though chiropractic education and practice make this a likely possibility, chiropractors are sharply divided over the wisdom of this merging process. Despite this schism, they have superficially and somewhat grudgingly united to support the adoption of CCE standards for basic chiropractic education, which expose students to medical diagnostic information from textbooks used in medical schools. The training extends to a broad familiarity with nearly all medical diagnostic instruments.

Nevertheless, a close examination of most chiropractic college clinics reveals that the degree of clinical exposure to a wide variety of medical conditions is far below that achieved by medical interns in medical hospitals and clinics. Furthermore, in a 1968 Department of Health, Education, and Welfare [HEW] study of independent practitioners under Medicare, the scientific panel on chiropractic concluded that "... the scope and quality of chiropractic education do not prepare the practitioner to make an adequate diagnosis and provide appropriate treatment. . . ."⁸

With the advent of CCE, chiropractic education has undergone drastic change, but serious questions remain. Many studies have shown that at present their education does not prepare chiropractors to function as medical physicians. Whether they should—from the point of view of the law and of the chiropractic profession—is the subject of the next chapter.

Chiropractic schools nationwide teach their graduates to consider nearly all human symptoms except those of an emergent nature, i.e., severe bleeding, severe chest pain, major physical trauma.

CCE schools openly state that they prepare their graduates for the diagnosis and treatment of human disease.

All major schools teach a consistent standard of care, including a history, physical-spinal examination, and radiographic and laboratory analysis, as a basis for treatment or referral.

Chiropractic students are taught to use blood and urine tests, electrocardiographs, radiographic procedures such as gastrointestinal series, and how to differentiate bone and soft tissue pathologies from X-ray plates.

The responsibility of a primary health-care provider—to diagnose, to treat, and to refer—is taught and accepted as a paramount, irrevocable standard of care by all schools.

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MEDICAL PRACTICES AND RESPONSIBILITIES IN CHIROPRACTIC MEDICINE

3.1 The Proper Scope of Chiropractic Medicine—Straights versus Mixers

David D. Palmer spent much time and energy denouncing the general practice of medicine, but reserved his most intense and derisive remarks for diagnosis, which he considered its most useless aspect. Early chiropractic educators, including his son, expressed deep ambivalence toward this subject, denouncing the medical profession and simultaneously inducing maverick medical physicians to teach chiropractic students physical examination and diagnosis. Today this dichotomy concerning the use of medical diagnosis continues to divide the chiropractic profession.

Probably a third of all chiropractors believe that to venture even into the fringes of medicine is a violation of the philosophy of chiropractic espoused by the Palmers. This conservative, traditional, or "straight" school, which espouses spinal adjustments and exercise rehabilitation, is represented by the International Chiropractic Association (ICA) and the Straight Chiropractic Association (SCA), with a combined membership of about 10,000. They are actively contradicting the liberal trend toward general medical practice. They attack through the courts, and in many states have been successful in getting attorney-general rulings and court decisions stating that the practice of chiropractic is strictly the detection and reduction of spinal subluxations.

This 1920 Boston case involved a challenge of state law by a straight group of chiropractors adamant in their position that their practice was to be strictly defined as the removal of spinal subluxations by hand only. According to chiropractic history, the straights rejoiced at this court decision, which severely restricted mixers in their use of medical modalities.

The injunction portion of the decree of Judge Scott provided:

WHEREFORE, it is ordered, adjusted and decreed that the defendant be . . . hereby enjoined from the use of physiotherapy, electro-therapy, colonic irrigation, colon hygiene, ultra-violet rays, infra-red rays, radion-

ics machines, traction tables, white lights, cold quartz ultra-violet lights, neuro-electric vitalizer, electric vibrator, galvanic current and sinusoidal current for the purpose of treatment of the sick or for any other purpose in connection with his practice of chiropractic and from the use of medicine and surgery and from prescribing certain or specific course of diet for any patient as an independent remedy or means of treatment. Defendant is not enjoined from using his reasonable judgment in recommending to a patient certain changes in diet, exercise or such of his general habits as affect his health but is enjoined from prescribing any specific or certain course of diet as above set out.

The defendant is further enjoined from advertising his use of physiotherapy, electrotherapy, colonic irrigation, colon hygiene, ultra-violet rays, infra-red rays, radionics machine, traction tables, white lights, cold quartz, ultra-violet light, neuro-electric vitalizer, electric vibrator, galvanic current and sinusoidal current or any of them in the treatment of the sick or as an aid to or preliminary or preparatory to his use of chiropractic or in any other way holding out to the public that any of these means of modalities may be or are used by him in the treatment of the sick or as an aid to or preliminary or preparatory to the use of chiropractic or from using or publicly professing to use any mode or general course of treatment other than chiropractic adjustments, and the clerk is hereby ordered to issue an injunction in accordance with this decree.

The liberal, progressive practitioners are commonly referred to as “mixers” because they choose to mix medical procedures with traditional chiropractic methods. The mixer includes in his definition not only spinal adjustment but a number of generally accepted medical techniques, such as physiotherapy, vitamin therapy, and general medical rehabilitation. His purpose appears to be the absorption of everything in medicine except pharmacology and surgery—and in some states, such as Oregon, even some of these procedures are accepted as “usual and customary.” The liberals are represented by the ACA, with a membership of approximately 15,000. The ACA, ICA, and SCA actually rely to a great extent upon the various state laws to determine scope of practice and lobby aggressively to influence the language and thus the purview of proposed legislation.

3.2 Current Practice: The Move toward Medicine

Leaving aside for the moment the fraternal question of what chiropractors should be practicing, the question of what they *are* practicing at present must be considered. Dr. William J. Jarvis, a consumer-health expert from Loma Linda University in California, described chiropractors as either O-type who treat spinal and organic conditions, or M-type who treat only spinal-musculoskeletal conditions.² This classification is convenient for purposes of debate and discussions with government agencies, but in practice there is a definite crossover of philosophies and procedures. One way to distinguish conservatives and mixers is to say that both support “holistic” practice in that they accept all symptoms as possibly related to “nerve pressure,” but differ distinctly in the *means* a chiropractor should take to alleviate these symptoms.

The late Henry Higley, M.S., D.C., of the Los Angeles College of Chiropractic, characterized the scope of practice of the liberals:

We realize that a large section of the nonchiropractic public appears to assume that chiropractic is confined to the treatment of diseases of the back. They seem to believe that the patients of doctors of chiropractic are limited to those suffering from sciatica, torticollis, and similar conditions affecting the musculature of the back. The careful compilation of patient data from the 1953 records of our chiropractic clinic shows that well over sixty-five different pathologies (e.g. gastrointestinal problems, genitourinary problems, cardiovascular problems, anemia) were represented.³

In 1963 ACA conducted a survey among practicing chiropractors, the results of which were presented to HEW in 1968. The survey supported Higley’s contentions. Eighty-five percent of the chiro-

practitioners said that they treated musculoskeletal problems more frequently than any other. However, 81 percent reported that conditions other than musculoskeletal were first, second, or third among those most frequently treated. These other conditions included headache, sinusitis, constipation, hypertension, gall-bladder problems, anemia, chronic heart conditions, poliomyelitis, diabetes, and rheumatic fever.⁴ Similar surveys by ICA seem to indicate that the conservative group agrees with ACA on scope, but is more reticent in its public pronouncements.

In a 1958 book entitled "The Science of Chiropractic," the B. J. Palmer Clinic staff described its medical offerings as follows:

The B. J. Palmer Chiropractic Clinic presents these case records to demonstrate the effectiveness of Chiropractic with cases medically diagnosed as multiple sclerosis, encephalitis or sleeping sickness, hydrocephalus, epilepsy, sciatica, cirrhosis and cancer of the liver, and tumors. It is hoped these records will benefit both the chiropractor and any interested lay persons who may chance to read them.⁵

In recent pamphlets the Clinic has been more conservative.

A February 1981 article in the *ACA Journal of Chiropractic* by Robert L. Monti, D.C., discusses chiropractic management of coronary artery disease. Monti suggests various medical diagnostic aids such as stress EKG, coronary arteriography, and blood tests as necessary prerequisites to any chiropractic treatment, which he contends should consist for the most part of offering dietary control and spinal adjustments. He concludes with a quote from F. W. Cox, D.C.: "Coronary disease is a natural for our profession, we should not be neglecting it."⁶

Tables 3.1 and 3.2 compare liberal and conservative therapies in the acute and rehabilitation stages for spinal sprains and for coronary artery symptoms. Table 3.3 lists several orthodox medical procedures used by chiropractors and considered by the conservative ICA as the practice of medicine and thus outside the scope of chiropractic.

3.3 The Legal Responsibilities of the Chiropractor

3.3.1 Diagnosis, Treatment, and Referral

What do the courts consider to be the scope of chiropractic? In March 1972 the *ACA Journal of Chiropractic* published an 11-page memorandum entitled "Scope of Chiropractic Diagnosis." The first paragraph sets the tone for the discussion of the court decisions to follow and leaves little doubt that the authors, a Missouri law firm, consider diagnosis an integral part of chiropractic practice: "It would seem axiomatic that anyone about to treat the human body would be obliged first to diagnose the abnormality."⁷ Although the memorandum is primarily an interpretation of the Missouri State Chiropractic Licensing Statute, the authors state:

However, with respect to the scope of diagnosis . . . there are certain general observations and conclusions which can be drawn which have validity beyond any given state's boundaries.⁸

They cite several court cases that show clearly that once the chiropractor places himself in the position of primary health-care provider or first-contact physician, he has certain inescapable legal responsibilities.

The legal duty of the chiropractor, as with any other doctor, is to: first diagnose the patient's problem; second, if the problem can be treated by spinal manipulation then he may proceed:

third, if he determines that the form of treatment required is outside the scope of his practice, then he must refer the patient to another doctor.⁹

The American Chiropractor is a widely distributed forum for the liberal school of thought, carrying advertisements for a wide range of holistic practices. Orval Hidde, a prominent chiropractor, discusses several court decisions supporting his premise that those who act as primary health-care providers have a legal duty “of utilizing ascertainable levels of knowledge, skill and judgment in making a diagnosis, rendering treatment or making referrals.”¹⁰ He concludes with an admonition that his colleagues must have the ability to diagnose all diseases:

The foregoing cases may be summarized as follows. Case law imposes a legal duty on chiropractors to diagnose under a reasonable care and skill standard. This duty to diagnose is not limited by statutory limitations on the scope of chiropractic treatment. The scope of the chiropractor’s duty to diagnose extends not only to those conditions which he can successfully treat through his school of practice, but to all disorders to which the human body may be subject. Failure to diagnose at all, or to diagnose properly, exposes the chiropractor to legal attack for negligence and malpractice.¹¹

The courts have repeatedly ruled that when the chiropractor puts on the “white coat” of the medical practitioner, he simultaneously accepts the responsibilities of primary health care; he is obligated to diagnose and treat, or to refer.

3.3.2 Primary Care without Medical Education

There are some serious problems with the present, qualified status of chiropractors as primary health-care providers. Are chiropractors truly prepared to function on a level with medical physicians in primary care? In the 1974 case of the *State of Washington v. James Allen Wilson*, chiropractors were barred from drawing blood for diagnostic purposes. The Washington Court of Appeals upheld the lower-court decision about the competency of chiropractors to diagnose:

We recognize that the taking of a blood sample may be a relatively simple endeavor, and that a laboratory will perform an analysis and state its conclusions. Nevertheless, converting that analysis into a correct diagnosis may be a much more complex matter.¹²

The following excerpt from a chiropractic insurance company journal expresses concern about the accurate interpretation of compiled clinical data:

Any diagnostic test, whether it be blood work or x-rays, is of no value unless it is interpreted properly. What value is a radiograph of the hip joint, if the person viewing the film cannot recognize a slipped femoral capitus epiphysis?¹³

The article discusses “defensive medicine,” and misdiagnosis because standard testing is not completed. Responsible persons in all health sciences advocate a thorough, orthodox medical examination to determine the cause of the problem before any treatment is instituted. The failure to perform a complete history, examination, and battery of tests is one of the primary issues in chiropractic malpractice cases.

That a physical examination by a chiropractor is equivalent to a physical examination by a medical physician is a dangerous, false impression that can lead to disaster for both patient and chiropractor. While chiropractors are attempting more sophisticated practices, such as radiographic diagnosis of soft-tissue tumors, gastrointestinal studies, interpretation of laboratory analysis, and diagnosis of cardiac and other

internal disorders, they are still isolated from genuine hospital experience and are not prepared philosophically, academically, or legally to administer pain medication or drugs for diabetes or coronary trouble.

This author has reviewed cases in which chiropractors have attempted diagnosis and treatment of left-sided chest pain, reassuring the patient that the condition was, in fact, a heart problem amenable to spinal adjustments and vitamin therapy. The results are sometimes only a waste of the patient's time and money; in other instances the substandard medical care can cost a life. The straights generally avoid this type of problem by limiting themselves mostly to spinal analysis and by playing down the role of attempting to diagnose all symptoms with which the patient presents. Mixers often attempt to employ all the non-invasive medical diagnostic techniques that their state allows, and in states where chiropractors can treat all types of disorders, very few medical procedures are off limits. Nevertheless, it is impossible to categorize a chiropractor as a "family physician" capable of assuring that sutures are properly placed and necessary inoculations are given.

3.3.3 Standard Chiropractic and Malpractice

The acceptance of all symptoms as somehow amenable to standard chiropractic care, in this author's opinion, often makes standard chiropractic practice, malpractice. Dorland's *Medical Dictionary* defines malpractice as: "Improper or injurious practice; unskilled and faulty medical or surgical treatment."¹⁴ Given that improper or injurious practice can consist of overt acts of commission or covert acts of omission, standard chiropractic in its full sense frequently violates the prudent-action dictum and encompasses both of these factors, as well as the concept of informed consent.

Both sides commit malpractice in that there is no scientific evidence that "nerve interference," as propounded by chiropractic philosophy and training, causes disease.

Liberals commit malpractice by offering comprehensive diagnostic techniques and treatment with inadequate training and without the authority to prescribe medications. Conservatives commit malpractice by failing to diagnose, refer, or offer appropriate treatment. A counter-argument often presented by organized chiropractic is: "but we do refer when it is something we can't handle." The initial acceptance of symptoms that often indicate serious underlying problems without a medical work-up, in this author's opinion constitutes malpractice.

3.4 The Future of Chiropractic—A Dangerous Transition

Both liberal and conservative practitioners consider chiropractic not a trade or job, but a profession. In its own way, each faction acknowledges a professional responsibility and the necessity of growth. An open letter to his peers dated January 12, 1978, from William A. Nelson, DC, then executive director of the ACA Council on Diagnosis and Internal Disorders, includes the following:

Do you believe chiropractors should be prohibited from treating asthma? Heart problems?

Should we be a profession limited only to specific kinds of back problems?

These are provocative questions but this council is concerned for the future of this profession. You are limited now to musculoskeletal problems with Medicare and many insurance companies are beginning to follow the precedent. If you are content with the continued restriction of chiropractic practice, read no further.

We feel chiropractic is an alternative to medicine. This profession has a responsibility to the public to offer a drugless health service without poisons or surgery. This council believes chiropractors can successfully treat many internal disorders as well as musculoskeletal condi-

tions. We are worried at the continuing tendency to restrict our practices for we consider chiropractors to be doctors and physicians, not mere technicians.¹⁵

D. W. Nelson, D.C., an articulate liberal spokesperson, rebuts a writer who had suggested that the profession limit itself to treating back pain and headaches:

How about the chiropractors who regularly handle the full spectrum of disease? Or those whose practice is a general family practice. Many, many rural chiropractors throughout our great country are highly respected by their fellow citizenry for extremely competent overall health care and in many cases for superior health care over other means. If chiropractic has exhibited beyond question the ability to cure all diseases, why limit ourselves for 'strategic' reasons? Why not follow our conscience and continue to serve the public in the primary provider spotlight along with pursuing similarly oriented research programs?¹⁶

William A. Nelson, D.C., then secretary-treasurer of the Council on Diagnosis and Internal Disorders of the ACA, leaves no doubt about his opinion on the direction the profession should take. On September 1, 1981, he wrote to one of his colleagues:

This Council is dedicated to raising the image of the members of this profession from that of a technician to a professional. Our members take pains to diagnose. We treat a multitude of conditions requiring diverse types of therapies. We are concerned with the relationship between musculo-skeletal structures and functions of the body; so that in certain cases, we use nutrition, psychotherapy and counseling as our treatment. . . .¹⁷

Thus, despite Daniel David Palmer's vilification of diagnosis, chiropractic seems bound in the direction of the medical physician. An independent observer could quite reasonably forecast a dangerous transitional period in which chiropractors place themselves in increasingly responsible positions with respect to their patients without academic background or legal authority.

3.5 References

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TABLE 3.1
Specific Chiropractic Treatment for Spinal Sprains

A. Acute Stage

Liberal (ACA)	Conservative (ICA)
1. Consultation, history, spinal examination	1. Consultation, history, spinal examination
2. X-ray examination according to area involved and severity	2. X-ray examination according to area involved and severity
3. Rest; immobilization with orthopedic support or plaster cast if severe	3. Rest, immobilization, orthopedic support: casts usually not advised
4. Specific patient counseling about dangers of furthering trauma by strenuous work or recreation	4. Specific patient counseling about dangers of furthering trauma by strenuous work or recreation
5. Referral to medical physician if pain is severe or if patient requests consultation	5. Referral to medical physician if pain is severe or if patient requests consultation
6. Application of vapor-coolant sprays or cryotherapy to reduce swelling and pain	6. Generally not advised and viewed as medical physical therapy
7. Application of diathermy (deep heat), ultrasound, galvanic electrical stimulation, and hot moist packs to relax muscles, increase blood circulation, and reduce inflammation	7. Viewed as the practice of medicine and denounced as an inappropriate addition to chiropractic practice

B. Rehabilitation Stage

- | | |
|--|--|
| 8. Soft-tissue massage with electrical vibrators or manual administration by assistant | 8. Manual massage sometimes used to relax patient for spinal adjustments |
| 9. Manual or instrument adjustment of specific vertebrae to reduce subluxations | 9. Manual or instrument adjustment of specific spinal vertebrae to reduce subluxations |
| 10. Recommendation of therapeutic amounts of vitamins, mineral supplements, and animal-glandular extracts to assist stressed tissues to heal | 10. Considered the practice of medicine |
| 11. Exercise, occupational precautions, postural training to stabilize spinal correction | 11. Exercise, occupational precautions, postural training to stabilize spinal correction |
| 12. Basic dietary counseling | 12. Basic dietary counseling |
| 13. Supportive psychological counseling | 13. Supportive psychological counseling |

Table 3.2
Chiropractic Care of Coronary Artery Symptoms

Liberal (ACA)	Conservative (ICA)
1. Consults, does history, accepts symptoms	1. Consults, does history, accepts symptoms
2. Will perform spinal examination with X-rays	2. Will perform spinal examination with X-rays
3. Many will attempt a medical diagnosis of the condition, may refer for medical consultation	3. Most will refer for medical consultation, diagnosis
4. Will give report to patient and discuss possible cause as "nerve interference" plus dietary, stress, living habits as contributory factors	4. Will give report to patient and discuss possible cause as "nerve interference"
5. Treatment will be indirect, utilizing spinal adjustments to "clear nerve interference" to the heart and direct measures, such as vitamin-herb therapy, dietary counseling, stress reduction, lifestyle and occupational counseling with "medical" monitoring by blood pressure, and EKG recordings	5. Treatment will be indirect, utilizing solely spinal adjustments to "clear nerve interference" to the heart

TABLE 3.3
Additional Liberal Practices

- Manual or instrument reduction of “trigger points” (muscle or ligament knots that produce pain)
- Continuous or intermittent spinal traction and vertebral mobilizing units
- Elaborate and complex weight-loss and dietary-supplement programs for specific diseases
- Plaster casts and sophisticated orthopedic supports and braces for sprains and disc lesions
- Applied kinesiology (muscle balancing)
- Anti-gravity spinal-stretching devices

Manual or needle-applied acupuncture (may utilize electrical stimulation)

BASIC SPINAL COLUMN ANATOMY

4.1 Vertebrates and Invertebrates

To understand chiropractic care, it is necessary to review basic vertebral column anatomy. All animals may be classified as either invertebrates or vertebrates. *Invertebrates* are those members of the animal kingdom whose central nervous system is neither dorsal nor tubular. They have no backbone and no gill slits in any of their developmental stages. Their eye(s) is usually an outgrowth of the skin and not an extension of or connected to the brain. They have no ventral heart. Some of the main classes of invertebrates are mollusks, arthropods, echinoderms, worms, coelenterates, sponges, and protozoa.

Vertebrates are animals that have a backbone, or series of bones of the back. This class of creatures includes fishes, amphibians, reptiles, birds, and mammals, or about 32,000 recognized species, including man. Some authorities think that the term *chordates* is more appropriate than *vertebrates* because some of the lowest forms in this phylum have a smooth, elastic rod called the *notochord* instead of a jointed vertebral column.

In the higher vertebrates, a series of hollow, connected bones enclose the spinal cord and support the trunk. During skeletal development, there are 33 of these vertebrae—seven cervical, twelve thoracic, five lumbar, five sacral, and four coccyx.

4.2 General Characteristics of the Spine

The five sacral vertebrae later fuse together and form a mass called the sacrum. Below the sacrum are the four small vertebrae that unite as the individual ages and the coccyx is formed. The separate vertebrae are connected by cartilaginous discs and ligaments. Thus in developed humans the spine or backbone is composed of 26 separate bones. These bony segments give needed strength, allow for great mobility, and protect the spinal cord and branching nerves.

The human spine is curved forward in the cervical and lumbar regions and backwards in the dorsal and sacral portions. The ligaments and cartilages, which unite the vertebrae, make movement possible.

Movements are limited between any two vertebrae, but may extend over the column as a whole; and the arrangement permits a considerable degree of body rotation and lateral, backward, and forward bending.

The spine has two primary functions. First, it provides a firm though not rigid pillar that allows the body to be maintained in its upright position. Second, the arches of the vertebrae form a continuous, protective canal in which the spinal cord is lodged. Its average length is 28 inches in the male and 27 inches in the female. One-fourth of the total length may be accounted for by the discs. During a typical day, the length of the spine may fluctuate by as much as three-quarters of an inch due to temporary compression and shrinking of these fibrocartilaginous pads. The skull is above the spine, and on the sides it supports the ribs. Below, it rests on the sacrum or part of the pelvic girdle.

4.2.1 Spinal Development: Three Stages

The 33 vertebrae of the human spine begins as the first indication of a body framework in the developing embryo. The precursors of this vital segmented structure can be noted as early as the 21st day of development and are called the notochord, a primitive supporting structure that represents the beginnings of the axial skeleton. The entire spine develops around this primitive structure in three stages, and afterwards its remains exist as the mucoid nuclei pulposus of the intervertebral disc. During the fourth week of the embryo's development, a series of primitive somites or mesodermal segments appear as paired, block-like formations on each side of the median line next to the notochord. There are 38 pairs: one for the occiput, seven for the cervical vertebrae, 12 for the thoracic vertebrae, five for the lumbar, five for the sacrum, and eight for the coccyx, with several of these coccygeal somites failing to develop. Each pair of somites is a mass of mesodermal tissue that expands around the neural tube and the notochord and ultimately forms many of the structures that make up the axial skeleton, vertebrae, ribs, ligaments, muscles—in fact, all the connective tissues adjacent to the spinal column.

The second stage begins at the end of the fourth week when each somite undergoes differentiation into three parts: the sclerotome, from which will come the vertebrae and the ribs; the myotome, forming the skeletal musculature; and the dermatomes that make the connective tissues of the skin over the trunk.

Ossification, the third stage of vertebral development, commences in the tenth week. Actually, there are two periods of ossification. The first takes place in the fetus, and the second from early adolescence to approximately age 25. Although bone is one of the hardest substances in the human body, it also possesses properties of elasticity and toughness. Each adult vertebra is composed of an outer, hard layer of compact bone, and an inner, softer portion (cancellous bone) that forms the bulk of the vertebra.

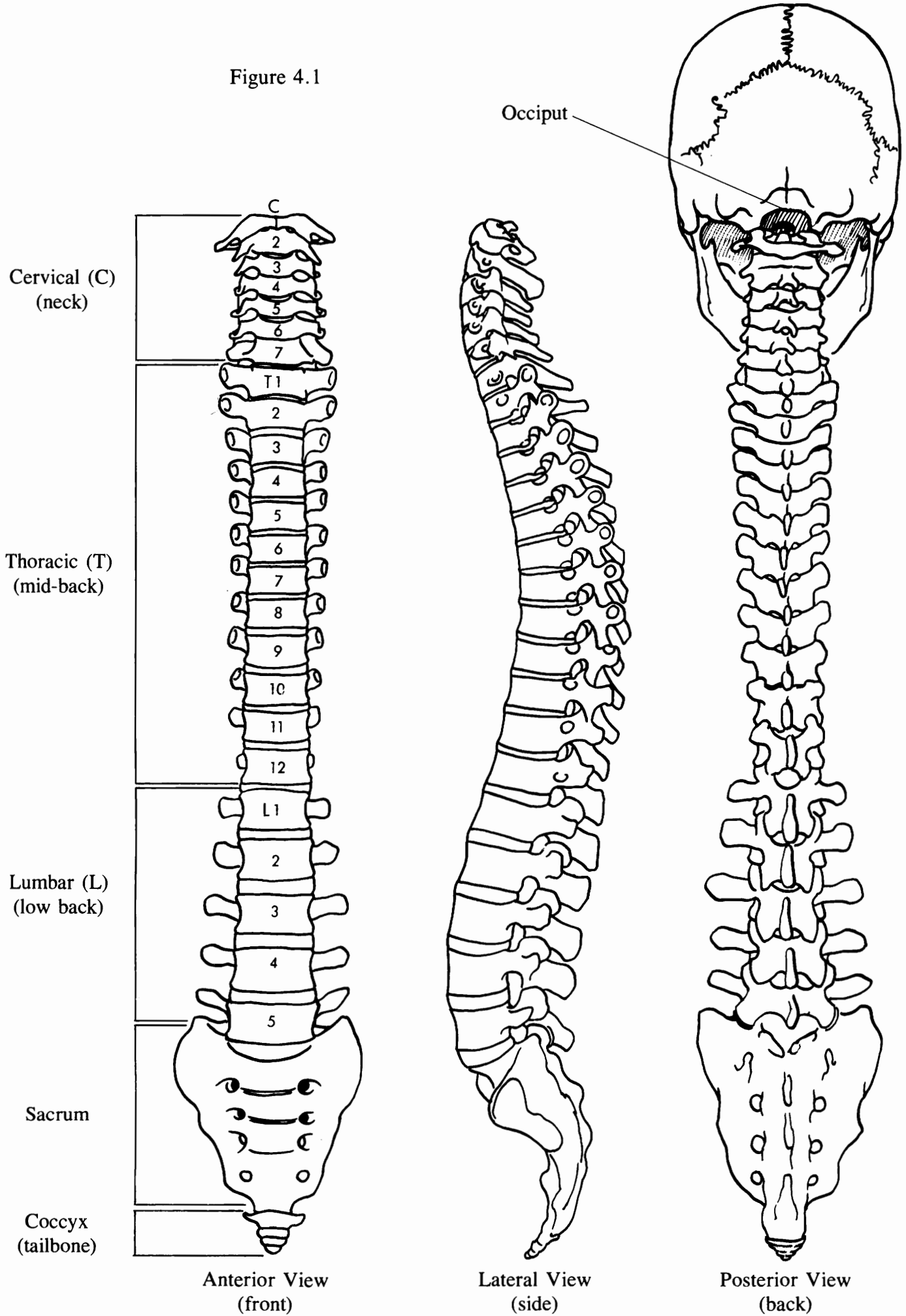
During early fetal life, the spine viewed laterally is shaped like the letter C. The thoracic and sacral curves of the adult represent the remains of this single, long curve. These are called primary or accommodation curves, as they persist from the fetal state. They are concave to hold the thoracic and pelvic viscera.

By the time of parturition, a lordosis is present in the cervical area. It becomes more prominent as the infant begins to hold up his head and sit. Similarly, when a child first stands and walks, between the ages of nine and 12 months, the lumbar curve begins to develop. It is well established at the 18th month in most children. When all four curves are developed, a profile view of the spines presents a figure similar to the letter S.

4.3 General Characteristics of the Cervical Vertebrae

The typical vertebra consists of a body or centrum and a neural arch that enclose an area known as the vertebral canal. This in turn encases the spinal cord. The arch is composed of two pedicles, which are its sides, and the laminae, which form the roof. Observed projecting dorsally is the spinous process arising

Figure 4.1



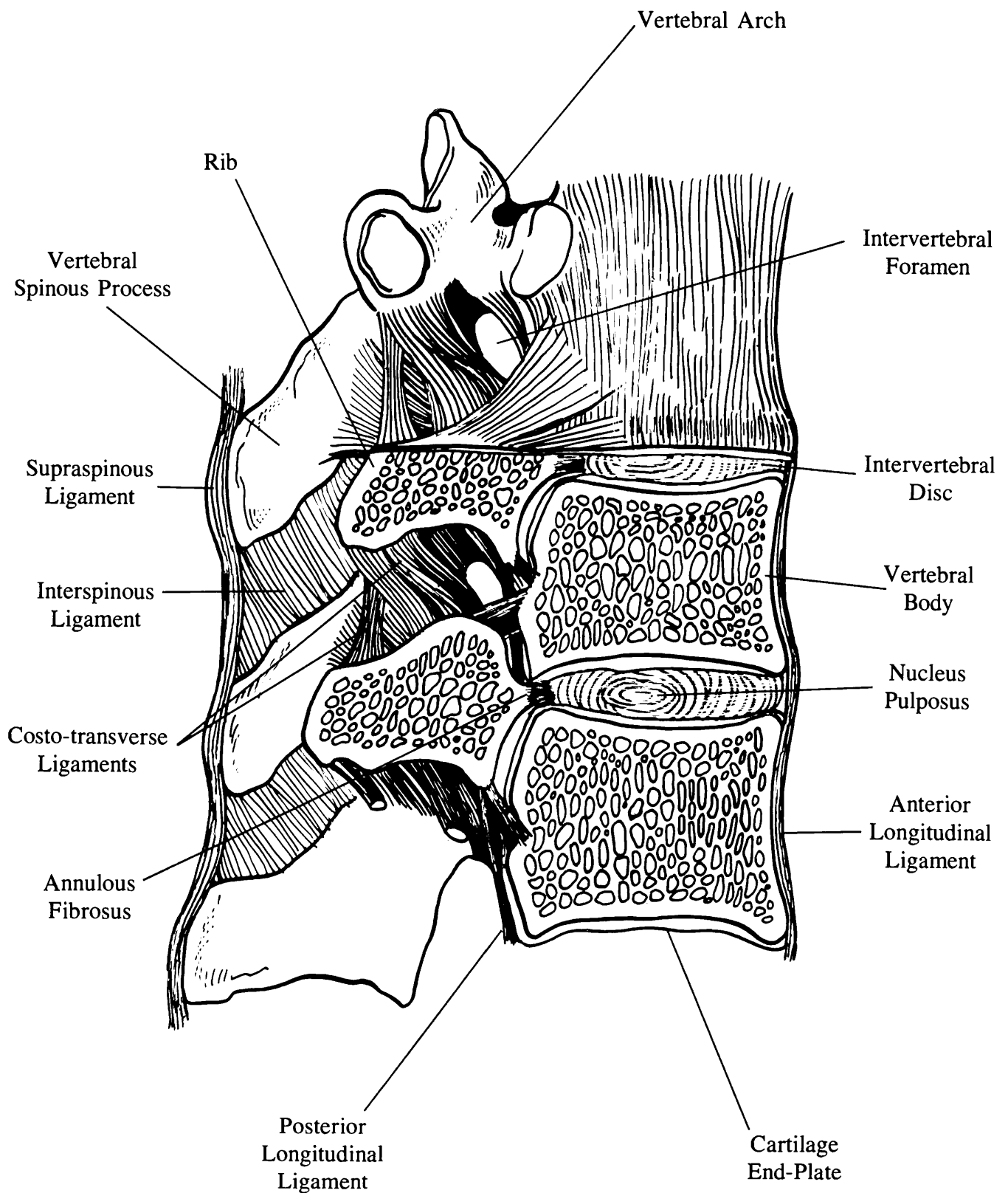


Figure 4.2
X-Section through Thoracic Vertebrae

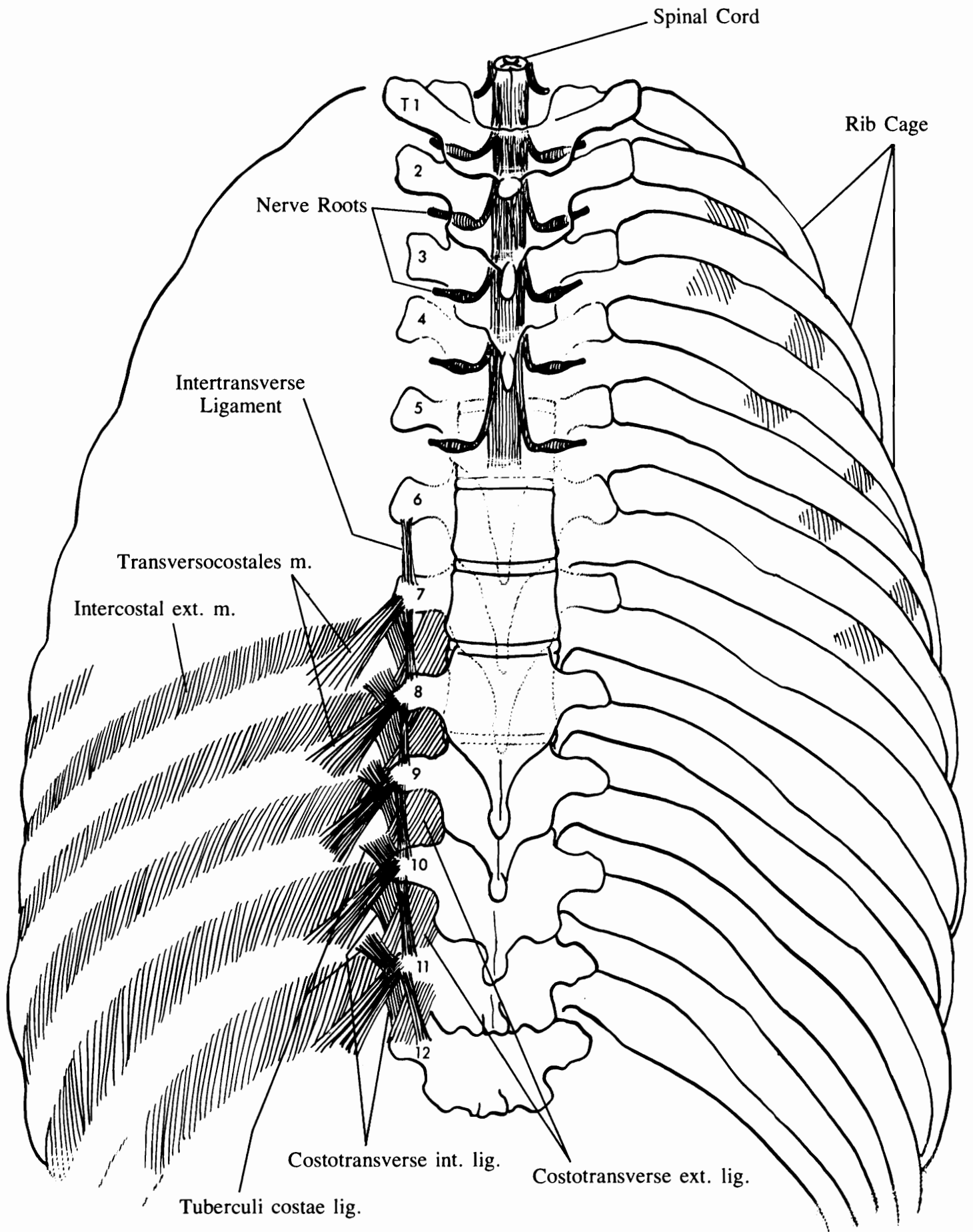


Figure 4.3
Posterior (back) View of Thoracic Vertebrae and Related Structures

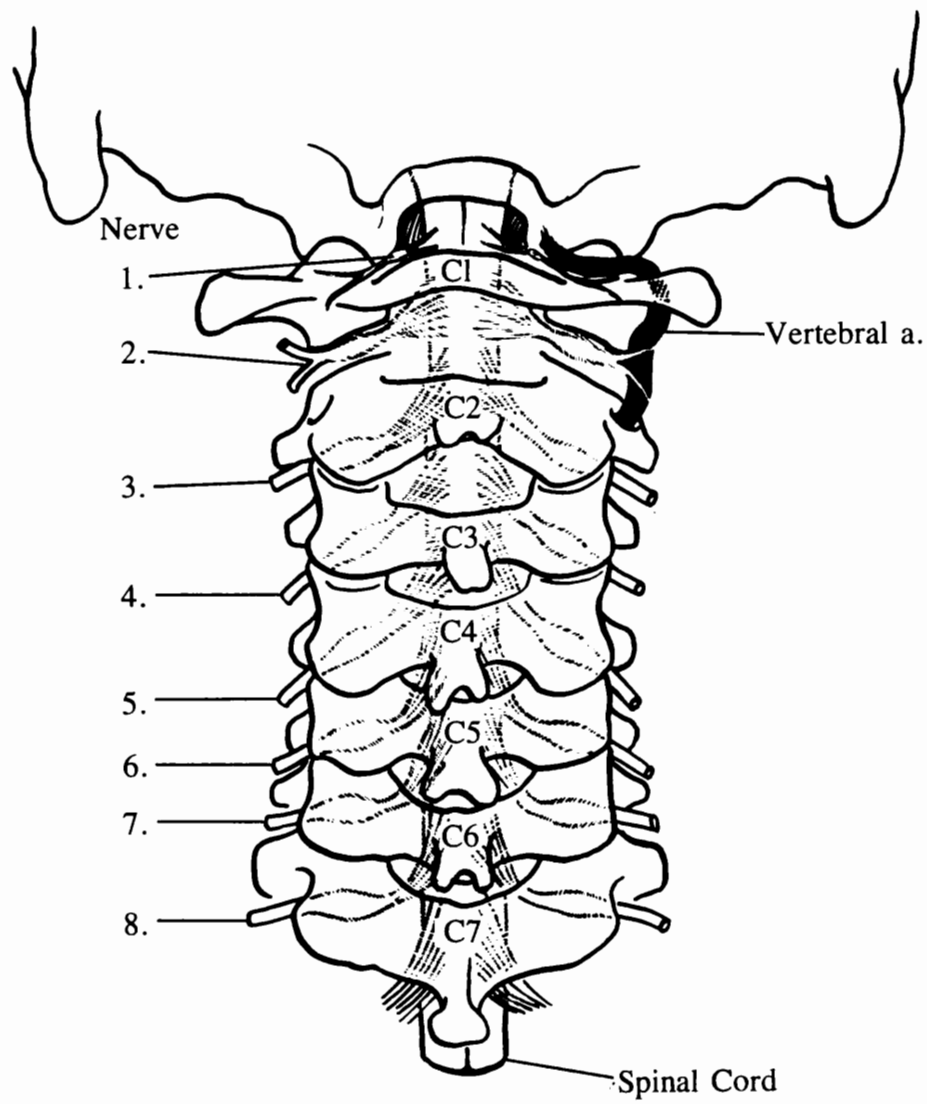


Figure 4.4
Posterior (back) View of the Cervical Spine

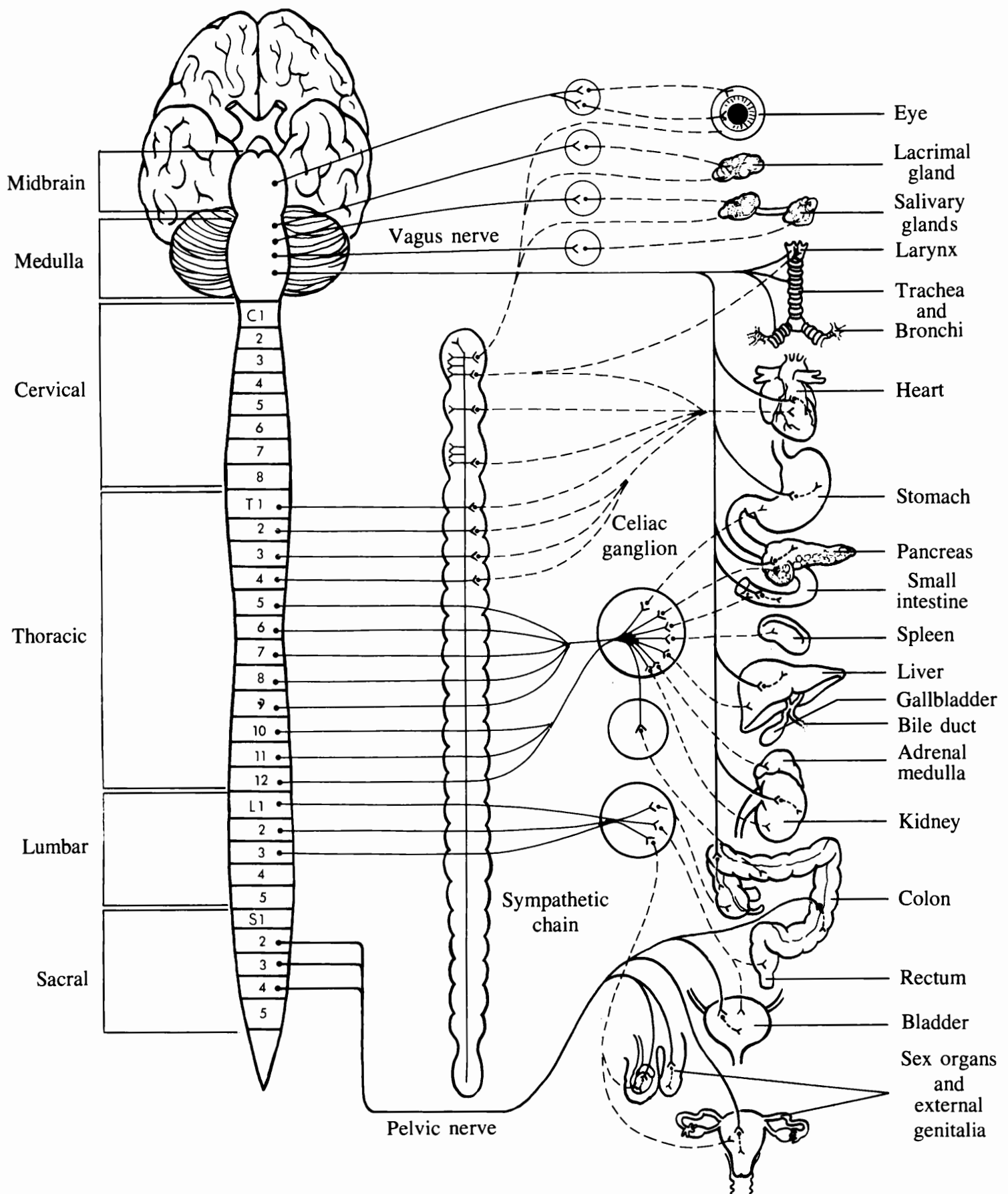


Figure 4.5
The autonomic nervous system:
Solid lines, preganglionic fibers; broken lines, postganglionic fibers.

from the midline of the laminae. Lateral extension from a vertebra is usually greater anteriorly than posteriorly; thus the cervical lordosis is due to the configuration of the discs rather than the bodies.

The body of a normal cervical vertebra is approximately 50 percent longer transversely than its anteroposterior dimension. The pedicles are short and bear superior and inferior articular processes. On either side of the body is a transverse process; they form the transverse foramen permitting passage of the vertebral artery, an important structure that can be damaged in chiropractic malpractice. Each transverse process also contains a groove for the spinal nerves. Posteriorly the laminae terminate, in short, slender, bifid spinous processes.

4.3.1 The Atlas

The atlas, or first cervical vertebra, has no independent body but is joined to the second cervical vertebra, the axis, to form the *dens*. The atlas consists of an anterior and a posterior arch and heavy lateral masses that bear the superior and inferior articular surfaces. Superiorly it articulates with the occiput; inferiorly with the axis. The anterior arch has on its internal surface a facet for articulation with the *dens*, and on its anterior surface a tubercle for muscle attachments. The posterior arch bears a small tubercle in place of a spinous process, and on its upper surface are sulci for the vertebral arteries.

The atlas had a special significance to B. J. Palmer. After having taught that all vertebrae should be adjusted, he concluded in the 1930s that the atlas was the only one that could subluxate enough to cause nerve interference. Palmer had studied thousands of skeletons, and he reasoned that evolution had developed, in all other animals, interlocking processes for protection against excessive movement. Either insufficient time for development or incomplete species evolution of man had left him without a guarding process. Palmer developed his Hole In One (HIO) adjustment to reduce atlas subluxations and clear all nerve interference below this point. The maneuver was a rapid thrust on the side of the neck over the atlas, and often left the unfortunate recipient in spinal shock.

4.3.2 The Axis

The axis, or second cervical vertebra, is identified by the projection of the odontoid process or *dens*, which is continuous with its body. Its spinous process is massive, elongated, and bifid. The superior articular processes are large and placed on heavy masses arising from the body and pedicles. The seventh cervical vertebra is considered atypical because of its particularly long and bifurcated spinous process known as the vertebral prominens. It has only a small transverse foramen for the vertebral artery does not usually pass through it.

4.4 The Thoracic Vertebrae

The 12 thoracic vertebrae progress in size from cranial to caudal. Their anterior height is one to two mm less than their posterior, accounting for the thoracic kyphosis. The laminae and spinous processes are long, and they tend to overlap the respective succeeding processes. Thoracic vertebrae are unique for they present on each side of the body facets for articulation with the heads of ribs; and their long, heavy transverse processes bear facets on their lateral anterior surfaces for articulation with the tubercles of ribs.

4.5 The Lumbar Vertebrae

The lumbar vertebrae, easily identified by their large, heavy structure, possess bodies that are wider transversely than they are in the antero-posterior direction. They have pedicles, massive transverse processes that are long and delicate, each with an accessory process on the dorsal surface at the base. The spinous processes are broad and massive with a prominent thickening of the tip.

4.6 The Sacrum

At the base of the spine is the sacrum, an inverse, triangular-shaped bone that during early life is made up of five segments known as sacral vertebrae. During the early years, the bodies are separated by intervertebral fibrocartilages, but usually by age 25 the sacrum becomes a single, solid bone. Sacral foramina, typically located opposite each other, allow passage of the dorsal and ventral branches of the spinal nerves. On the dorsal surface of the sacrum a series of tubercles in the midline form a crest. Superiorly the sacrum articulates with the fifth lumbar, laterally with the ilium, and inferiorly with the coccyx.

A segment of the chiropractic profession has great reverence for the balance of the sacrum as the basic determinant of spinal integrity. The practitioners have devised several elaborate techniques to adjust this slightly movable structure. One school of thought blames all subluxations above its base, from the fifth lumbar to the occiput, on subluxation of the sacrum. They say in essence, "As the sacrum goes, so goes the remainder of the spine."

4.7 The Coccyx

The coccyx or tailbone is formed by the 25th year from fusion of four vertebral segments. There may be a vestigial fibrocartilaginous disc between the first and the second coccygeal segments. Often the coccyx fuses with the sacral apex in later life.

4.8 General Characteristics of Discs

The 23 pad-like intervertebral discs or fibrocartilages form the chief structural units between adjacent vertebral bodies from the axis's inferior surface to the fifth lumbar's inferior surface and the first sacral segment. The discs are considered to be among the most important spinal ligaments. They have five chief functions: shock absorption; attachment and separation of vertebral bodies; help in formation of secondary curves; action as powerful ligaments; and formation of part of the intervertebral foramina.

The discs vary in size, shape, and thickness in different regions of the spinal column, and conform to the size and shape of the vertebral bodies that they join, except in the cervical region where they are slightly narrower than them. They are thinnest in the cervical area, becoming gradually thicker as they approach the dorsal and lumbar regions. Anatomically, each disc consists of two parts: the outer annulus fibrosus and the inner nucleus pulposus. The annulus, composed of fibrocartilage, is fused to the epiphyseal, the plate of the vertebral body, and forms an envelope around the softer nucleus. The thick, tough fibrocartilage is arranged in thick, interlacing, concentric lamellae that give it great strength.

The inner nucleus is a soft, semi-gelatinous, highly elastic yellow tissue near the center of the disc. It can be imagined as the jelly in a doughnut, with the ring of the doughnut being the annulus. Each nucleus is about one-half inch in diameter and oval in shape, and represents the remains of the embryonic notochord. It occupies 40 percent of the disc's cross-sectional area. Much of the shock-absorbing of the spine is done by the nucleus, for under pressure it flattens, broadens, and pushes the more resistant annulus outward in all directions.

Until age eight, small blood vessels supply the disc through cartilaginous end plates, but by the time growth has ceased, these vessels are obliterated. There is general agreement that the nucleus and annulus are completely without vessels during adulthood. Fine, free nerve-fiber endings have been observed in the outermost layers of the annulus fibrosus, but not in the deeper layers of the annulus and nucleus.

During youth, the discs are elastic and have high fluid content, but later in life they lose fluid and elasticity. There is general agreement in the literature today that the intervertebral disc has the ability to convert vertical pressure to horizontal thrust. As the spine flexes forward the fluid action of the nucleus and the elastic mechanism of the annulus are necessary to allow an increase in the radius of the disc and distribution of this vertical thrust.

When one attempts to lift a heavy weight, it is utilized like a crane and is subjected to tremendous forces. It has been calculated that lifting 100 lbs produces 1600 lbs per square inch of pressure on the discs. The annulus fibrosus, however, has a mean endurance of just 710 lbs, and discs have been demonstrated to break down to completely under pressure of 750 pounds. Thus one concludes that additional support is available for the spine under the stresses of lifting; this could be related to the stress-relieving effect of intraabdominal pressure. Interesting changes in disc pressure with shifts in position have been measured by placing a direct-pressure transducer in the third lumbar disc and recording the variations. In the recumbent position the pressure is 25 kg; in the standing 100 kg; and with muscular changes and mechanical arrangement of the joints it reaches 150 kg. If a 70-kg standing man lifts a 50-kg weight at a forward-flexion angle of 40 degrees, the stress in the lower lumbar disc is about 600 kg. Thus it can quickly be seen that mechanical stress can cause pathology in a normal disc and is a significant factor in the destruction of a disc weakened by loss of normal physiological resiliency. Furthermore, unusual stress from erect postural requirements has been shown to be a significant factor in continual wear and tear on disc structures apparently without any abnormal stresses involved.

4.9 Causes of Disc Pathology

The efficient functioning of the intervertebral disc depends largely on the physical properties of the nucleus pulposus, which are closely related to its water-binding capacity. Aging is certainly a factor in disc conditions as it has been repeatedly demonstrated that the water content of disc tissue gradually decreases as life advances. A basic requirement for normal disc function is perfect gel characteristics of the nucleus pulposus. Studies reveal that disc pathologies are the result of a rather constant pattern of biochemical changes. These macromolecular changes might be postulated as a rapid breakdown of the protein polysaccharide linkage, loss of chondroitin sulfate as compared to keratosulfate, or increase in collagen content. They result in altered fluid action of the disc and a reduction of its imbibition index. If one relates this to requirements for normal disc function—a perfect nucleus gel to evenly distribute pressure, high tensile strength in the annulus, and associated elastic properties—the significance of chemical changes as precursors of visible, clinical pathologies becomes clear. In a normal disc the creation of extraordinarily high pressure in the nucleus or severe tearing of the annulus could, without chemical changes, result in disc pathology, but this is not usual. De Palma¹ theorizes that the most realistic explanation for disc protrusion lies in a series of biochemical changes through which the nucleus pulposus loses its ability to evenly distribute pressure on a weakened annulus; and rupture or herniation may occur. The damage may be induced by one severe trauma, or more likely by a number of micro-traumas. A general picture of the gross pathology involved would include edema, petechial hemorrhage, consolidation, fibrotic infiltration, and calcium depositing.

4.10 Ligaments of the Vertebral Column

The anterior longitudinal ligament is broad and strong and is placed on the anterior and anterolateral aspects of the vertebral bodies from the atlas to the sacrum. Its deepest fibers blend with the intervertebral disc and extend from the body of one vertebra to the disc to that of the adjacent vertebra.

The posterior longitudinal ligament lies on the posterior surface of the bodies of the vertebrae from the axis to the sacrum. It is mounted firmly to the ends of the vertebrae and deeply to the intervening discs.

In the thoracic and lumbar regions, its lateral expansion over the discs are rather weak and this is a vulnerable point for disc herniations. Capsular ligaments surround the synovial joints between the superior and inferior articular processes of adjacent vertebrae. They add little stability for they are too lax to permit the necessary gliding motion between joints. Intertransverse ligaments join the transverse processes of adjacent vertebrae, adding stability to the spine as a unit. Posteriorly between adjacent laminae are yellow ligamenta flava. These extend laterally, forming a portion of the roof of the intervertebral foramen. A unique attachment to the laminae creates an extremely even posterior-inferior wall of the spinal canal that remains smooth in every postural position and protects the neural elements.

The supraspinous, a thin ligament composed largely of elastic tissue, lies over the tips of the spinous processes, i.e., between the spinous processes by the interspinous ligaments that are thin and relatively weak. Unique articulations among the occiput, the atlas, and the axis are joined by a complex crisscrossing of ligaments. This allows a broad range of movements and lends stability to an area that is often under unusual stress from bearing the weight of the head and is extremely vulnerable to injury.

4.11 The Vertebral Arteries

One component of this complex area is the two vertebral arteries that ascend in the foramina of the transverse processes of the cervical vertebrae to the brain. It has been demonstrated that various degrees of flexion, extension, rotation, and muscle spasm can alter blood flow in one or both arteries. These arteries and the brain tissues they feed are especially vulnerable during certain chiropractic adjustive maneuvers. This is an important factor in chiropractic malpractice.

Blood is supplied to the spinal ligaments from branches of the spinal arteries. Nerve supply to ligaments and synovial joint capsules is of sympathetic and spinal origin.

4.12 The Nervous System

The nervous system is the body's communications network. It receives and interprets stimuli and transmits impulses to the effector organs. Simply described, it consists of the *central nervous system* (the brain and spinal cord) and the *peripheral nervous system*. The latter is composed for the most part of a number of nerves connecting various parts of the body to the central system. For example, it includes the cranial nerves, most of which arise from the brainstem, which is directly continuous with the spinal cord. From the brainstem come the 33 pairs of spinal nerves that leave the vertebral canal through the intervertebral foramen. Some of these nerves link muscles to the central nervous system, while others connect internal organs and glands to it. The second are known as the *autonomic nervous system*. This in turn is divided into two parts according to function.

The *parasympathetic* tends to shut down or conserve body energy expenditures, and the *sympathetic* accelerates output. Both have afferent and efferent fibers that allow transmission of nerve impulses from the brain to the periphery and sensory nerves that direct incoming messages to the spinal cord and brain. The systems are by no means completely separate; they react extensively with each other.

The basic unit of the nervous system is the nerve cell, or *neuron*. It consists of a cell body, axon, and several dendrites. Dendrites carry messages toward the cell body, and the axon conducts them away. Thus, a neuron is a one-way conductor of information.

The spinal cord, a 17- to 18-inch, pliable, almost cylindrical organ of nervous tissue, lies in the upper two-thirds of the vertebral canal. To understand chiropractic malpractice, it is necessary to give the cord special attention. The cord is one-half inch in diameter and is surrounded by three tubular fibrous

membranes or meninges. From the outer to inner, they are the dura mater, arachnoid, and pia mater. These membranes absorb nutrition; protect and support this vital lifeline from the brain; and are delicately arranged to serve its needs.

The dura, a tough, fibrous membrane, is the outer covering, while through the arachnoid and pia mater circulate the cerebrospinal fluid and blood supply. The spinal cord has four chief defenses: the bony walls of the vertebral canal, the meninges, the curves of the spine with the disks and cerebrospinal fluid, and fat that cushions it from shock—the violent concussion of a fall, a blow, or other trauma. Certain chiropractic maneuvers subject the spinal cord to abnormal and unusual stresses, and under certain conditions, a patient may be severely and/or permanently damaged.

4.14 Summary

The spine, with its neuromuscular ligamentous relations, constitutes a functional unit that performs a greater number of varied tasks than any other anatomical unit. The following are the most important capacities of the spine: protection, support, weight-bearing, maintenance of body shape, resiliency, transmission, skeletal formation, stabilization, and motion.

The number of possible movements of the spine is so vast that it is difficult to comprehend. For example, with only 13 pairs of spinal muscles studied, it has been calculated that there are more than 67 million possible combinations of movement (there are at least 144 muscles directly attached to the spine). Thus the spine is a dynamic indicator of myogenic equilibrium, the result of nervous control on the bilateral muscles pulling against gravity.

The musculature of the back consists of a number of not entirely separate layers that may be distinguished from one another by the direction of their fibers and their length. The long muscles are placed superficially, the intermediate muscles more deeply, and the short muscles directly against the vertebrae. The back muscles are generally subdivided into five major groups, but obviously they all work together in their complex, intricate functions. It is this dynamic but stabilizing network of contracting fibers, the muscle system, which allows the chiropractor indirect but effective access to the primary focus of his therapy, the spinal subluxation.

4.15 Reference

1. De Palma Anthony: "Clinical Signs and Symptoms of Cervical Disease." As found in *The Intervertebral Disc* (Philadelphia, PA: W. B. Saunders, Co., 1970).

BASIC CHIROPRACTIC SPINAL ADJUSTING

5.1 Spinal Subluxation—The Primary Chiropractic Lesion

5.1.1 Definition and Effects

The sole and unique function of the chiropractic profession is to assist the body to regain spinal balance by detecting and correcting spinal *subluxations*. These are basically defined as abnormal structural relationships between adjacent vertebrae that interfere with normal nerve function.

A major contention among medical anatomists, physiologists, orthopedists, neurologists, and chiropractors regarding spinal subluxations is not whether they exist but when, and with what effects. Many medical researchers concede that subluxations are an important factor in joint dysfunction and pain, radicular pain, and some conditions related to somatic and functional disorders of the viscera. Chiropractors, however, essentially believe that everyone who is ill has a spinal subluxation, and that this subluxation is more likely than not the cause of the illness. Modern chiropractic care is based on the premise that spinal subluxations from some form of trauma are a common reality in humans of all ages, including newborn babies.

No scientific research has verified the theory that minute subluxations alter nerve function and cause widespread somatic disease processes. There is much contention on what degree of disrelationship is necessary before nerve function is compromised. Most anatomists, orthopedists, and neurologists believe that considerable tearing of the soft tissue or crushing or proliferation of the bone by osteophyte formation must occur before the nerve foramen are compromised to a degree great enough to cause nerve impairment. Chiropractors disagree and base their practice on the premise that even slight misalignments or subluxations can impair nerve physiology to the point that catastrophic health crises can occur. There is continual debate on this issue of degree of misalignment, and it is a question that should be left to medical researchers.

Medical orthopedists insist that to qualify as a subluxation a vertebral misalignment must be visible on an x-ray. Chiropractic theory does not require this. Chiropractors accept other clinical mani-

festations, such as contracted muscles, postural spinal imbalance, area skin temperature readings, thermography, palpation of apparent deviations, and observation of related symptoms.

There are numerous theories within chiropractic related to types and categories of subluxations, but pressure for standardization from government agencies, such as HEW and the Medicare Committee, has resulted in some agreement. One definition proposed by ACA is: "A subluxation is the alteration of the normal dynamics, anatomical or physiological relationships of contiguous articular structures."¹

Spinal subluxations do exist, and vast clinical evidence supports the hypothesis that these complex joint syndromes can interfere with normal nerve function. Their effects listed in chiropractic literature are direct nerve pressure, circulatory changes, spinal-cord meningeal irritations, altered cerebrospinal fluid flow, and irritation of the proprioceptive fibers, which convey messages within the body. Two major proofs that a subluxation exists are neurological manifestations and structural changes determined by clinical evaluation, although the latter of them involves subjective judgment.

5.1.2 Causes of Spinal Subluxations

According to observers, the causes of subluxations are many and varied. D. D. Palmer listed only three: physical trauma, toxins, and autosuggestion. He stated that these factors exerted an indirect influence upon spinal vertebrae, subluxating them by altering the contraction state of spinal muscles. Palmer noted, for example, that a snakebite could cause or correct a spinal subluxation because the physical shock and toxic effect of the venom would induce muscle contractions. Specifically, Palmer claimed that by releasing spinal nerve pressure a snakebite had cured one man of insanity: James Gillman was insane for several years. According to chiropractic, a vertebra had been racked, or drawn out of alignment, impinging upon a nerve, causing mental aberration commonly known as insanity. Fortune smiled out of a seemingly unfortunate accident. The rattler's venom acted as an antidote, or as a counter poison."²

Force expressed in the spine as a *sprain* is the most commonly accepted conception of the cause of the basic chiropractic lesion, vertebral subluxation. Dorland's *Medical Dictionary* defines a sprain as:

"A joint injury in which some of the fibers of a supporting ligament are ruptured, but the continuity of the ligament remains intact."³

A sprain involves a disruption of ligament bone contact, as opposed to a *strain*, which involves muscle and tendon contact to bone.

A muscle straining or overstretching is also believed to create joint fixation or subluxation, but there is not wide support for this as a significant factor in producing nerve-threatening irritation other than at the local area of injury. If the strain is accompanied by severe, unequal muscle contractions however, it is generally accepted that vertebrae may misalign and impair nerve function.

Other common causes of subluxation include direct physical trauma, as in a full or hyperflexion automobile injury; forceful leverage on arms; sudden rotation of the head beyond its normal range of motion; overcontraction of muscles in lifting; continual occupational strain; significant, chronic emotional stress inducing abnormal muscle strain; loss of normal muscle tone; and reflex irritation of muscles from visceral pathologies.

5.1.3 Why Subluxations Persist

Just why vertebrae remain locked in a subluxated position has inspired continuous debate. It seems reasonable to infer that the same factors that produce subluxations also cause them to remain. One

prominent orthopedic specialist, Ruth Jackson, M.D., suggests that impingement of the synovial membrane or of the meniscus-like structure within the posterior joints may be at fault. Others have hypothesized that tearing of the capsular ligament surrounding the lower of the posterior joints creates laxity and allows excessive joint motion. This creates a tendency toward displacement to a position not conducive to smooth joint function. An important factor that may be overlooked by some therapists and chiropractors is overtreatment of an area. The chiropractic adjustive force can act as an irritant that further traumatizes injured ligaments and causes abnormal, imbalanced, protective contractions of the powerful spinal musculature. Some X-ray studies have shown marginal roughening, ligament sclerosis, and arthrosis in posterior spinal joints after repeated rotary adjustments of the lumbar spine. It is difficult, however, to clearly establish whether these changes resulted from the trauma preceding the treatment or from repeated forceful rotation of the joint facets.

5.1.4 Excessive Adjusting

After reviewing several dozen cases of alleged over-treatment, it is the author's conclusion that the chiropractor's zeal to clear the spine of all perceived subluxations often leads to excessive adjusting, and the treatment intended to alleviate a condition becomes the irritant that perpetuates it.

5.1.5 Other Causes of Nerve-Root Irritation

Spinal subluxations are the primary focus in chiropractic treatment, but it is recognized that other factors can cause spinal nerve-root irritation. The most significant of these are adhesions around nerves, tumors, vascular anomalies, bony architectural defects, osteophytic spurs intruding into intervertebral foramen, and spinal-disc protrusions. Disc conditions are routinely treated by chiropractic methods and results are often quite good if the injured disc has not been ruptured and its inner substance, the nucleus pulposus lost. Recovery is often complicated by osteophytic spurring, architectural defects, and other joint changes, such as spondylosis from repeated micro-traumas. Such factors test the skill of the chiropractor in applying force in a manner that will effect joint mobility without inducing further trauma.

CLASSIFICATION OF SPINAL SUBLUXATIONS BY RADIOGRAPHIC MEASUREMENTS—VISUAL ASSESSMENT AND DIGITAL PALPATION

The following chart classifies spinal subluxations by X-ray. Subluxations can also be differentiated according to etiology: psychosomatic, traumatic, primary, secondary, compensatory; and according to symptoms, such as painful or hypomobile.

A.C.A. CLASSIFICATION OF VERTEBRAL SUBLUXATIONS

Definition:

A **subluxation** is the alteration of the normal dynamics, anatomical or physiological relationships of contiguous articular structures.

Significance:

Subluxations are of clinical significance as they are affected by—or evoke—abnormal physiological responses in neuromusculoskeletal structures and/or other body systems.

Manifestations:

In evaluation of this complex phenomenon, we find that it has—or may have—biomechanical, pathophysiological, clinical, radiologic, and other manifestations.

Classification of radiologic manifestations:**A. Static intersegmental subluxations.**

1. Flexion malposition.
2. Extension malposition.
3. Lateral flexion malposition (Right or Left).
4. Rotational malposition (Right or Left).
5. Anterolisthesis (Spondylolisthesis).
6. Retrolisthesis.
7. Lateralisthesis.
8. Altered interosseous spacing (decreased or increased).
9. Osseous foraminal encroachments.

B. Kinetic intersegmental subluxations.

1. Hypomobility (fixation subluxation).
2. Hypermobility (loosened vertebral (motor) unit).
3. Aberrant motion.

C. Sectional subluxations.

1. Scoliosis and/or alteration of curves secondary to musculature imbalance.
2. Scoliosis and/or alteration of curves secondary to structural asymmetries.
3. Decompensation of adaptational curvatures.
4. Abnormalities of motion.⁴

D. Paravertebral subluxations:

1. Costovertebral and costotransverse disrelationships.
2. Sacroiliac subluxations.

EXAMPLES OF DIAGNOSTIC ENTITIES INVOLVING SUBLUXATIONS

• Extension subluxation of C1 with suboccipital myofibrositis and attendant radiculitis of the second cervical nerve.

• Cervical sprain with concomitant paravertebral myofascitis and consequent flexion subluxation of C5 and attendant radiculitis.

• Extension subluxation of L4 with consequent facet syndrome and predisposing spondylosis-thesis of L5 with separation of the pars interarticularis.

• Extension subluxation of L5 with facet syndrome and periarticular and paravertebral myofibrosis.

• Lumbrosacral sprain with consequent flexion subluxation of L5 and attendant periarticular capsulitis and radiculitis of L5.⁵

F. EXAMPLES OF DIAGNOSTIC ENTITIES INVOLVING SUBLUXATIONS

1. Subluxation as a Primary Factor

• Since a subluxation may exist as a primary and perpetuating cause of disease and its initiation may be considered the most recent condition, or most important, and other qualifying complications derive from it. For example, complete diagnostic description may read:

- Extension subluxation of L5 with facet syndrome and periarticular and paravertebral myofibrosis.
- Right lateral flexion subluxation of T7 with upper thoracic scoliosis and a right scapulocostal syndrome.
- Right rotational subluxation of C6 with hypomobility, hypermobile subluxation of C5, and attendant paravertebral muscular spasm.
- Extension subluxation of C1 with suboccipital myofibrositis and attendant radiculitis of the second cervical nerve.
- Right lateral flexion subluxation of L5 with attendant lumbar scoliosis, spondylosis, and extension sciatic neuralgia.

2. Subluxation Complicating Sprain or Strain

Since a subluxation may arise from and complicate a recent sprain or strain injury, its involvement may be explained as in the following examples:

- Cervical sprain with concomitant paravertebral myofascitis and consequent flexion subluxation of C5 and attendant radiculitis.
- Thoracocostal strain with consequent left rotational subluxation of T6 and attendant intercostal muscle spasm and extension neuralgia.
- Right gluteal strain with consequent hypomobile subluxation of the sacroiliac articulation.
- Lumbosacral sprain with consequent flexion subluxation of L5 and attendant periarticular capsulitis and radiculitis of L5.

3. Subluxation Complicating Structural Faults

Since a subluxation may arise from and complicate structural asymmetries, developmental anomalies, or other chronic musculoskeletal lesions, they may be described as in the following examples:

- Right scoliosis sectional subluxation of the lumbar spine with predisposing right leg deficiency, attendant lumbar paravertebral myofibrositis, and reflex sciatic neuralgia.
- Extension subluxation of L4 with consequent facet syndrome and predisposing spondylosisthesis of L5 with separation of the pars interarticularis.
- Extension subluxation of C1 and suboccipital neuralgia and underlying sectional lordosis of the cervical spine and kyphosis of the thoracic spine with predisposing spondylosis.

- Chronic strain and myofibrositis of the cervical paravertebral muscles with predisposing left lateral flexion subluxation of T2 and consequent cervical scoliosis.
- Lumbar spondylosis and degenerative joint disease with predisposing right rotational subluxation of L5 and attendant developmental tropism.

4. Subluxation with Relating Visceral Complications

Since the internal visceral complications, as ramifications of a subluxation syndrome, are difficult to always prove, this aspect of the patient's condition must be qualified. If the examinations show that the internal signs and symptoms are a direct consequence of the subluxation, this condition should be mentioned in the diagnosis. If they exist, but are not related, they should be mentioned as associated findings. However, it should be made clear that the subluxation syndrome is what we are treating under present Medicare regulations and that the other disease condition has been referred or given whatever the condition requires according to clinical judgment.

5. Multiple Diagnostic Entities

When more than one specific and unrelated diagnostic entity is present, they should be separated and identified by numbering.

5.2 Specific Chiropractic Spinal Correction

Liberal and conservative practitioners agree that Chiropractic may be distinguished from other health sciences that use manipulation by two characteristics: (1) concentration on major subluxations and (2) specificity of treatment.

Chiropractors search for major subluxations as the theorized cause of disease; attempt to differentiate these from less significant lesions; and then apply a specifically directed force through the spinal musculature toward a particular vertebra to bring it into functional balance with related segments. Practitioners utilize a vast variety of adjustive techniques to accomplish this basic objective of mobilizing a vertebra that has somehow lost its ability to move freely within a normal functional range.

Only a minority within the profession claim that adjustors actually set bones like an orthopedic surgeon sets a fracture. Basic chiropractic education has never included bone-setting as part of clinical adjusting procedures. It is taught that the adjustor applies force, as specifically as possible, in a predetermined amount and direction to free the vertebra from its abnormal, locked position. He then relies on neuromuscular mechanisms to bring it into functional balance with related segments.

A correctly administered, specific vertebral adjustment will restore a spinal joint's mobility—the series of movements within the normal and usual range. Its effects, however, do not stop there. Although many chiropractors claim that their adjustments move only a specific vertebra, cineradiography or moving X-ray pictures taken during adjustment have repeatedly documented generous movement of several adjoining vertebrae. This is important evidence against the claim that weakened vertebrae, ligaments or discs above or below the point of adjustive contact cannot have been injured by a specific adjustment.

An adjustment consists of three phases: (1) exact practitioner positioning and contact; (2) preparation for the movement to be effected in the direction determined by the examination; and (3) administering the movement. The second phase is actually segmentally oriented traction, and is referred to as "taking up the slack." The third is the adjustment proper, a sudden thrust that moves the segment and usually elicits the well-known popping sound.

There may be slight, momentary discomfort over the contact point and an uncomfortable stretching feeling in tissues surrounding the area of vertebral movement, but if the patient has been placed in the appropriate position and the force correctly applied, there should be no distressing pain.

Joint popping can be induced even in the extremities, such as the fingers and feet. Any adjustment, good or bad, may produce such a sound; but it is not requisite. It simply means that a brisk separation of the articular surfaces has occurred. In the spine, it is the posterior or apophyseal joints that separate and pop, not the intervertebral disc. The cracking sound is caused by the stretching of the joint, which reduces synovial-fluid pressure. This causes tiny gas bubbles to form; they then burst and create noise. Subsequently the gas is reabsorbed into the synovial fluid. A competent manipulator should be capable of popping the spine of a normal subject, vertebra after vertebra, without eliciting any pain. Chiropractic patients who have been conditioned consciously or unconsciously to associate this noise with correction and/or relief are often disappointed if an adjustment is relatively silent.

EXCESSIVE ADJUSTIVE FORCE

Any adjustive force that increases pain, causes pain in a new area, creates a relapse during recovery, or triggers apparent physical or emotional damage is excessive. Excessive force, or adjustment in the wrong direction, can cause vertebral or costo-vertebral sprains that may be persistent and difficult to alleviate. Other negative results include exaggeration of the original condition (torticollis may be transformed into cervicobrachial neuralgia), lumbalgia progressing into severe sciatica; mild sciatica developing into paralytic sciatica; and rupture of a protruding, weakened disc.

There have been more additions to than deletions from the chiropractic adjustive armamentarium since 1895. Sandbags and flat, hard benches have fallen into disuse. New devices include more sophisticated tables to better place the patient's body; and various adjusting machines and "guns" to lighten the load on adjustors.

5.3 Adjustive Reduction of Cervical Subluxations

The objective for loosening the cervical vertebrae from the abnormal or locked position is that of all adjustments: to move vertebrae towards a normal, free-moving, articulating posture. There are four techniques for reducing cervical subluxations; some may be dangerous, depending upon various factors regarding the condition of bones, ligaments, muscles, nerves, and blood vessels in the neck. A thorough physical and X-ray examination of the neck must precede any adjustive thrust. This will better enable the clinician to select the proper technique.

5.3.1 Toggle-Recoil Adjustment in Side-Posture Position

The toggle-recoil adjustment in the side-posture position was devised by the Palmers. Named for the action producing the force, a sudden straightening or extension of the arms, the adjustment definitely produces movement in the cervical area. The adjustor places one hand at a specific point over the vertebra to be adjusted. He clasps the other over the contact hand and flexes the elbows, thus forming two spring-like levers over the point of contact. The arms are then rapidly extended, creating a force at the contact point.

During B. J. Palmer's time, there were many stories passed around the Palmer College Clinic about patients being rendered unconscious by this maneuver. Palmer called it HIO, or Hole in One. He taught that it would realign the atlas, the first cervical vertebra, and subsequently alleviate all nerve pressure

lower in the spine. According to some observers, many patients would roll from the side-posture position on the table onto the floor and fling their bodies from side to side. Some would then lose consciousness. Palmer allowed no one to assist them, for he claimed that the patient's "innate" or spirit was healing the body and it must not be disturbed.

For Palmer and some of his present-day followers, the toggle-recoil adjustment is the only manipulative technique. Their theory is that all disease or predisposition to disease in the human body is a result of spinal-cord pressure from disrelations of the occiput/atlas/axis articulations. There has been no scientific validation of this theory, but as with other techniques, its practitioners have many satisfied patients who praise its efficacy. Certainly temporary brainstem and spinal-cord shock are often produced by this adjustment; though for those not permanently damaged, the shock may somehow have altered their symptoms. With this technique, the vertebral arteries, which pass through the transverse processes of the cervical vertebrae, can be severely squeezed, compressed, and permanently damaged, placing the brain in immediate jeopardy.

There are thoughtful people within chiropractic and medicine who consider the toggle-recoil adjustment a brutal, dangerous method. It is not widely used today. Many who do employ it have modified their delivery to an isometric thrust with only light force, or have substituted spring-loaded instruments that deliver a more direct and lighter force.

5.3.2 Supine Face-up Rotary Adjustment

This technique relies on patient muscle and joint relaxation, achieved by having him lie face up with his arms at his sides. Such a position allows a degree of mobility far beyond that obtained in upright postures, in which sustained muscle contraction is required to support the head and upper back. The adjustment subsequently employed to reduce cervical subluxations is popularly referred to as a bilateral cervical rotary break—a sad irony, because this treatment can only be described as a brutal means of disrupting the blood supply to the brain, bruising or tearing the brainstem, and possibly causing hemorrhage that results in paralysis or even death.

The clinician stands over the patient, facing superior to inferior, cradling the head in both hands. When the patient is relaxed, the head is rapidly and violently rotated right and then left. This twisting far beyond normal ranges of motion will most certainly move all cervical vertebrae. Because of the ease of execution, it is used widely. After examining the evidence, however, the only possible conclusion is that this maneuver is a senseless endangerment of human life that should be banned by legislation in all 50 states. (See p. xxx for a description of how the bilateral cervical rotary break can damage the vertebral arteries.)

In other, more specific supine-position maneuvers, one hand cradles the patient's head and the contact hand is placed over a specific vertebra. The neck is rotated, but not as far, as lateral flexion is used to exert leverage on the area to be moved. There is less danger with such positions, but compromising the vertebral artery still remains a life-threatening possibility.

5.3.3 Seated Rotary Adjustment

There are a variety of cervical adjustments in the seated position, but the basic mechanism is rotation, traction, and extension of the joints followed by a rotary thrust. The weight of the head, however, plays a larger part in the force than it does in supine or prone adjusting for it is on the end of a lever arm, the neck. Contact is made with one hand on the selected vertebra. The other hand cradles the head and a thrust is effected.

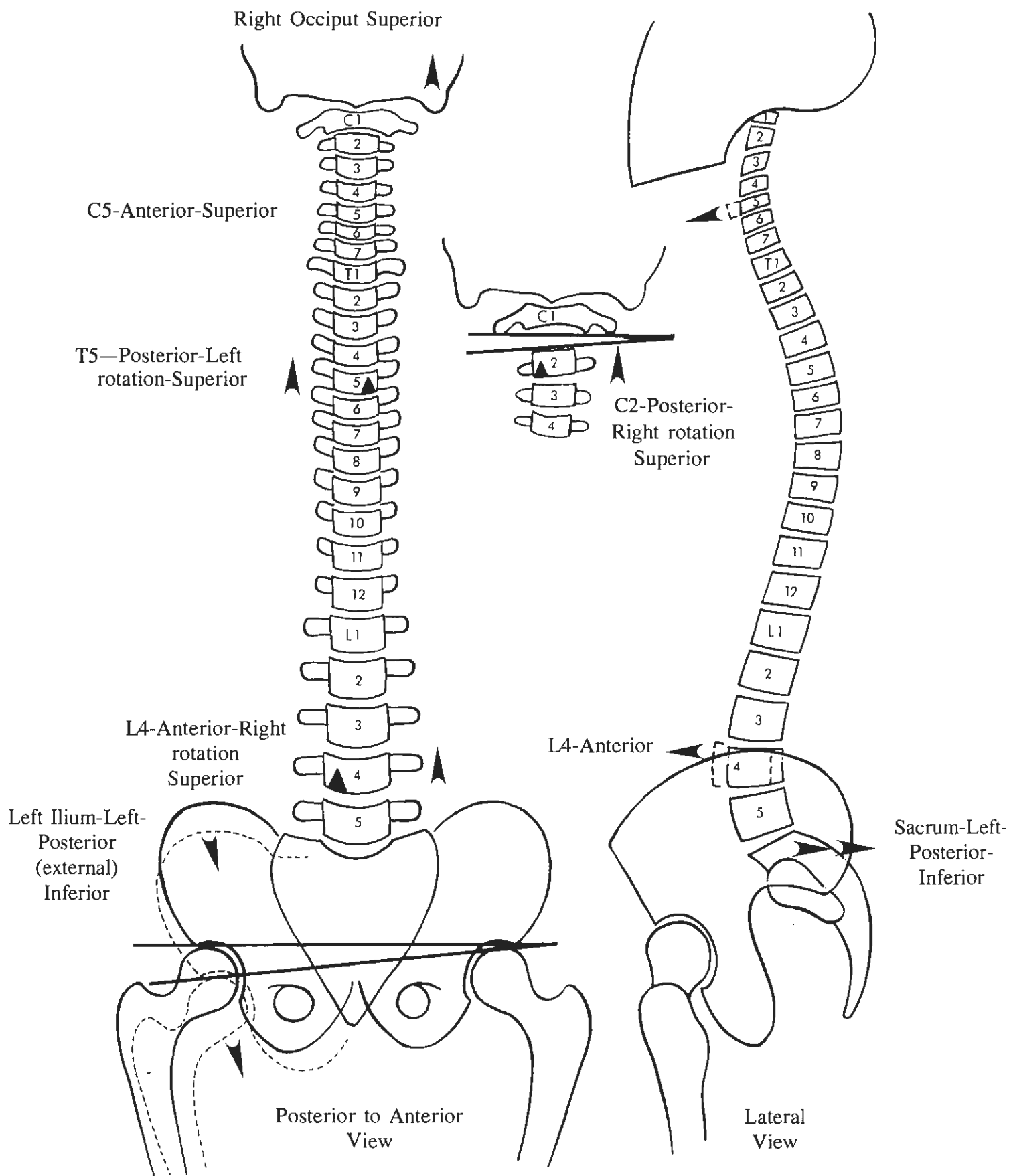


Figure 5.1
Basic Method of Subluxation Identification



Figure 5.1.1
Standard positioning and contact for a toggle-recoil adjustment in the side posture position.

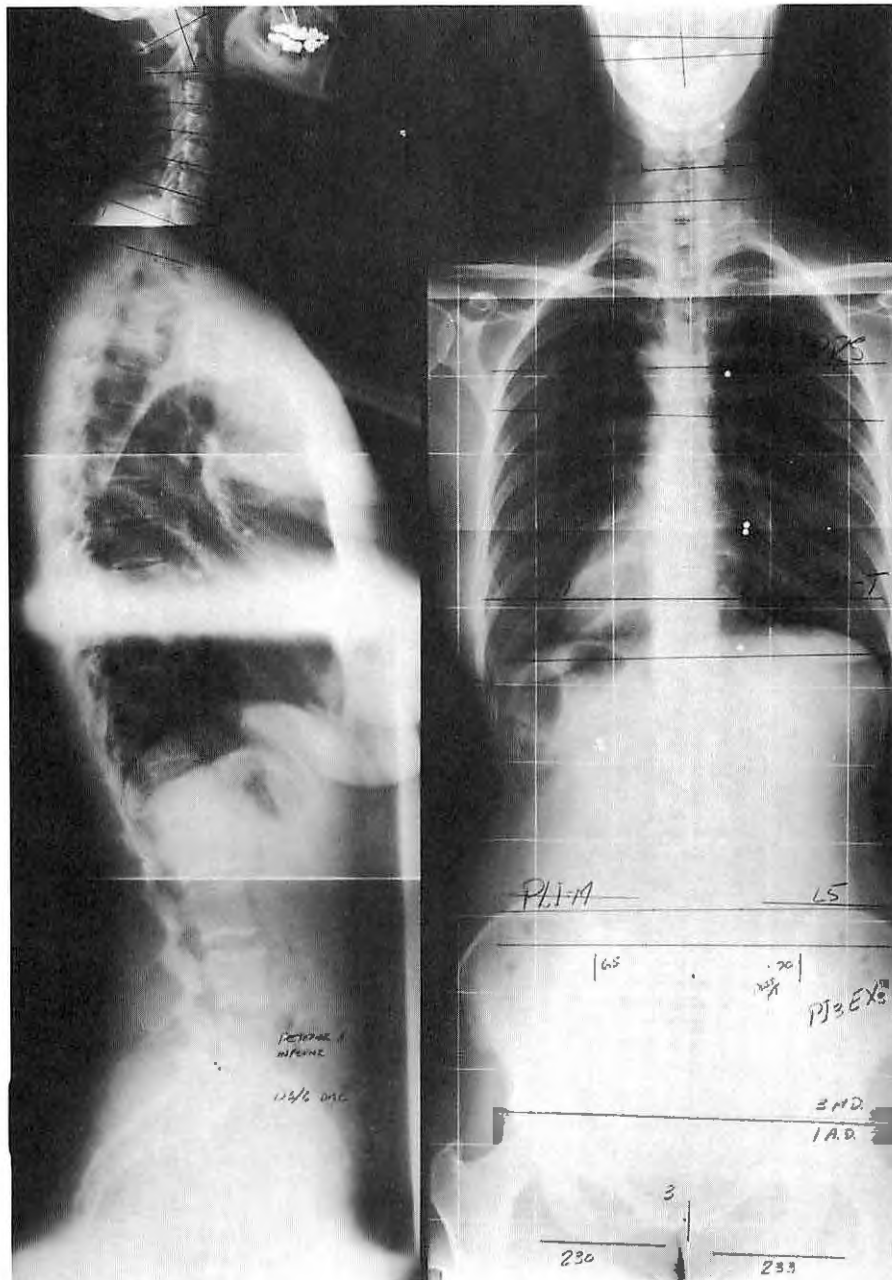


Figure 5.2

Commonly used line drawing method of locating spinal subluxations on anterior to posterior and lateral 14×36 x-rays.



Figure 5.2.1
A modified thumb contact to administer a toggle recoil adjustment.

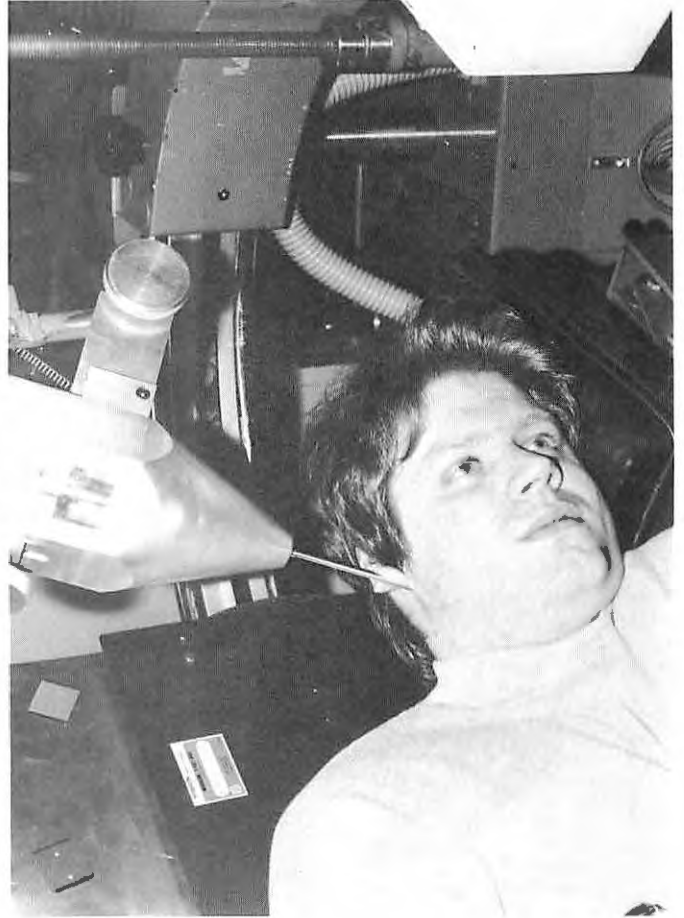
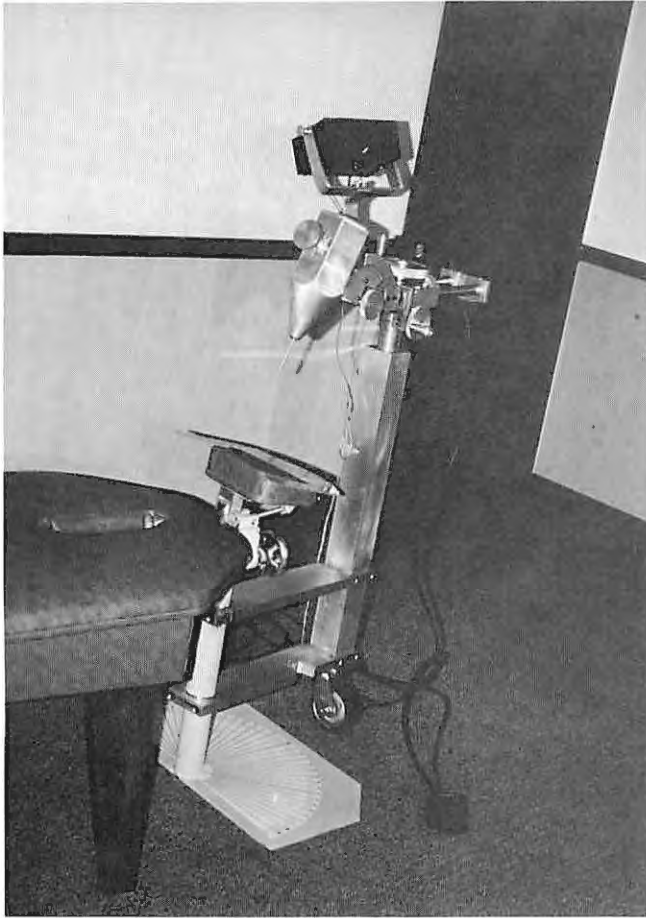


Figure 5.3
Sweat Adjusting Instrument



Figure 5.4

Supine bilateral rotary break—a rapid forceful thrust to the right and then to the left. A dangerous maneuver which can effect disastrous results—paralysis, death.

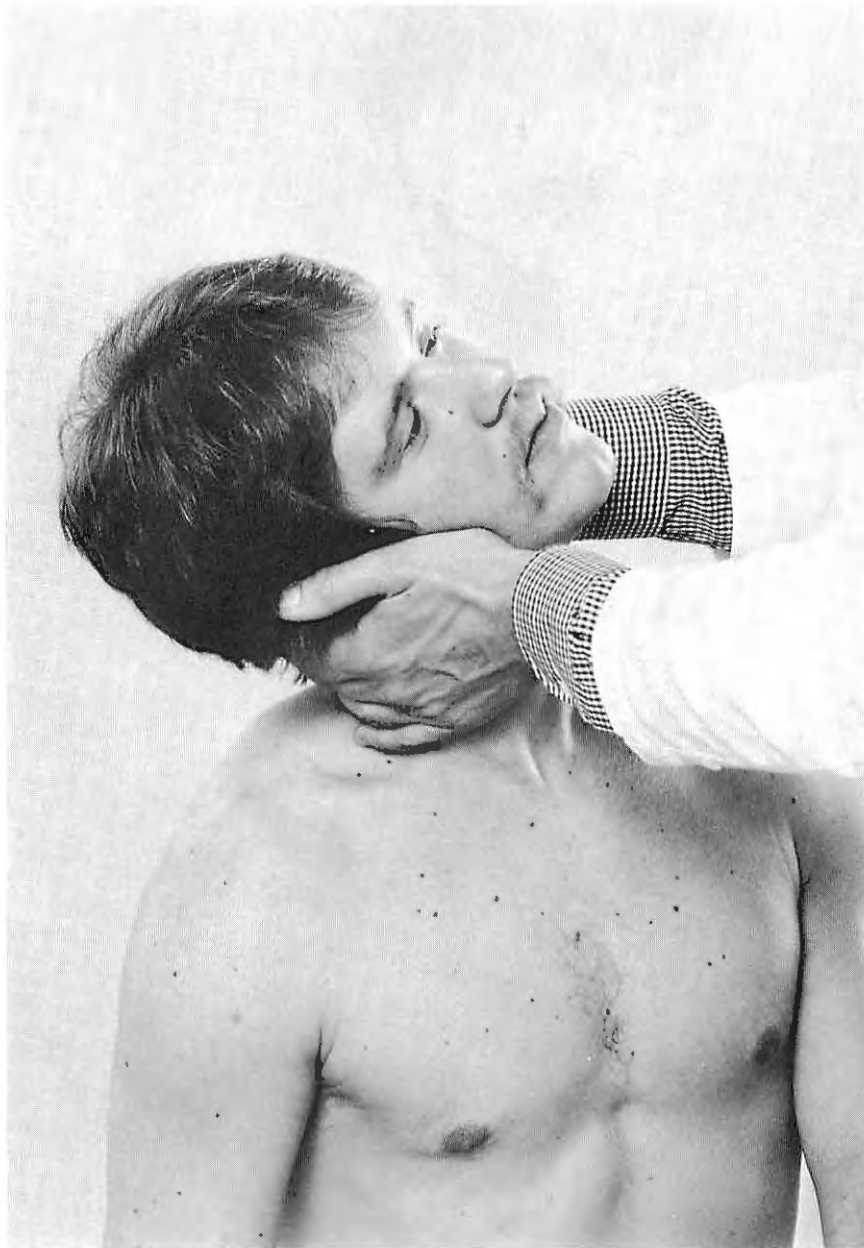


Figure 5.5
Seated position for rotary adjustment of the cervical vertebrae utilizing the weight of the head.

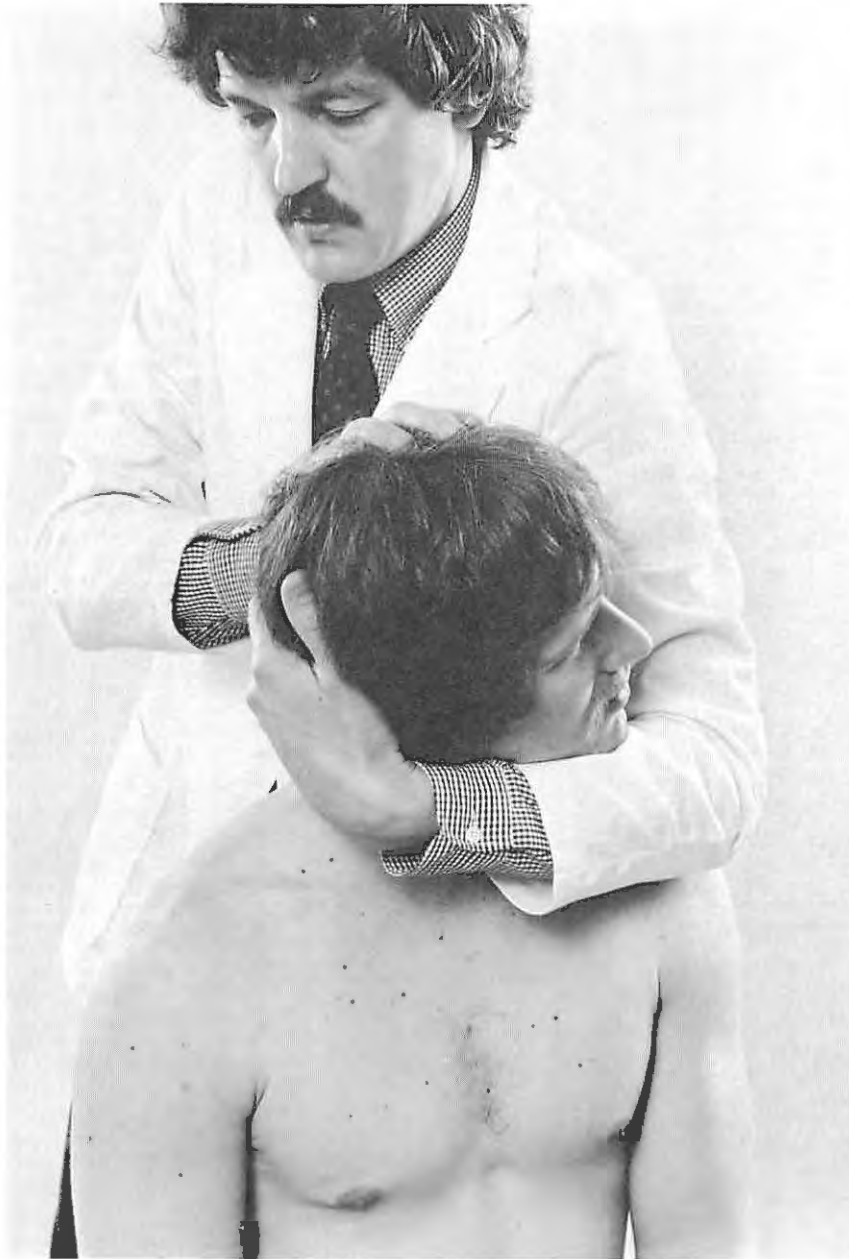


Figure 5.6

Seated position for rotary adjustment of the cervical vertebrae—wrapping the arm around the neck to effect forceful rotation and lateral flexion—a dangerous maneuver.

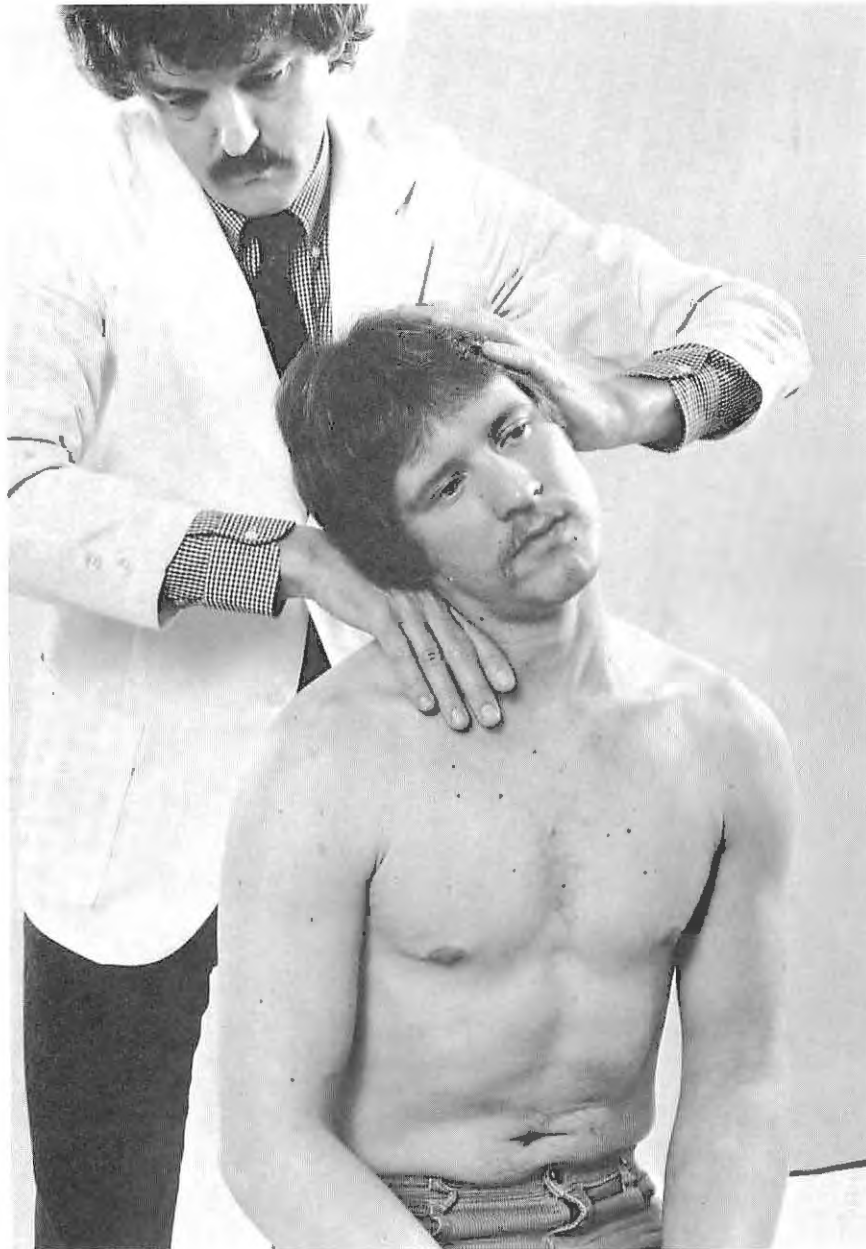


Figure 5.7

Seated position for adjustment of the cervical vertebrae utilizing lateral head and neck leverage.



Figure 5.8
Seated rotary adjustment of the cervical vertebrae of a child.



Figure 5.9
Thumb contact over spinous process of a rotated vertebra



Figure 5.10
Posterior to anterior superior adjustment with patient's arms crossed, hands clasped and adjustor's chest exerting direct pressure.



Figure 5.11
Supine, face-up position with adjustor exerting his body weight from anterior to posterior.



Figure 5.12
Rotary thoracic adjustment in seated position with adjustor contacting from posterior with patient's arms crossed and hands clasped behind neck.



Figure 5.13
Adjustment of the upper thoracic vertebrae utilizing the head and neck for leverage.



Figure 5.14
Prone or face down positioning to adjust thoracic vertebrae

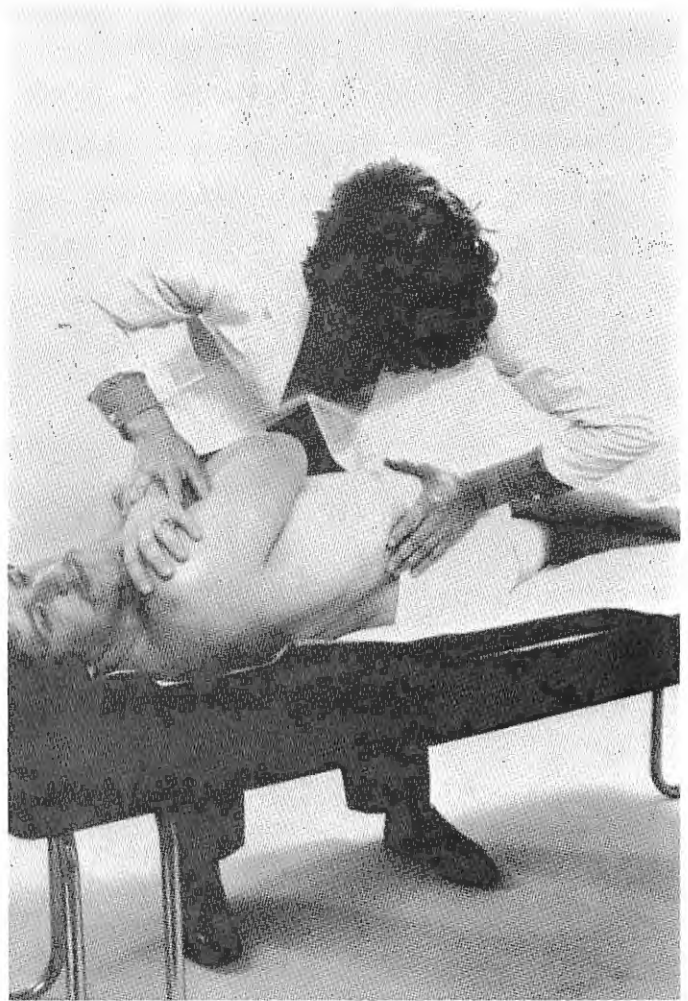


Figure 5.19
Lumbar Roll (left and right side) for adjustment of the sacrum, ilium and lumbar vertebrae.

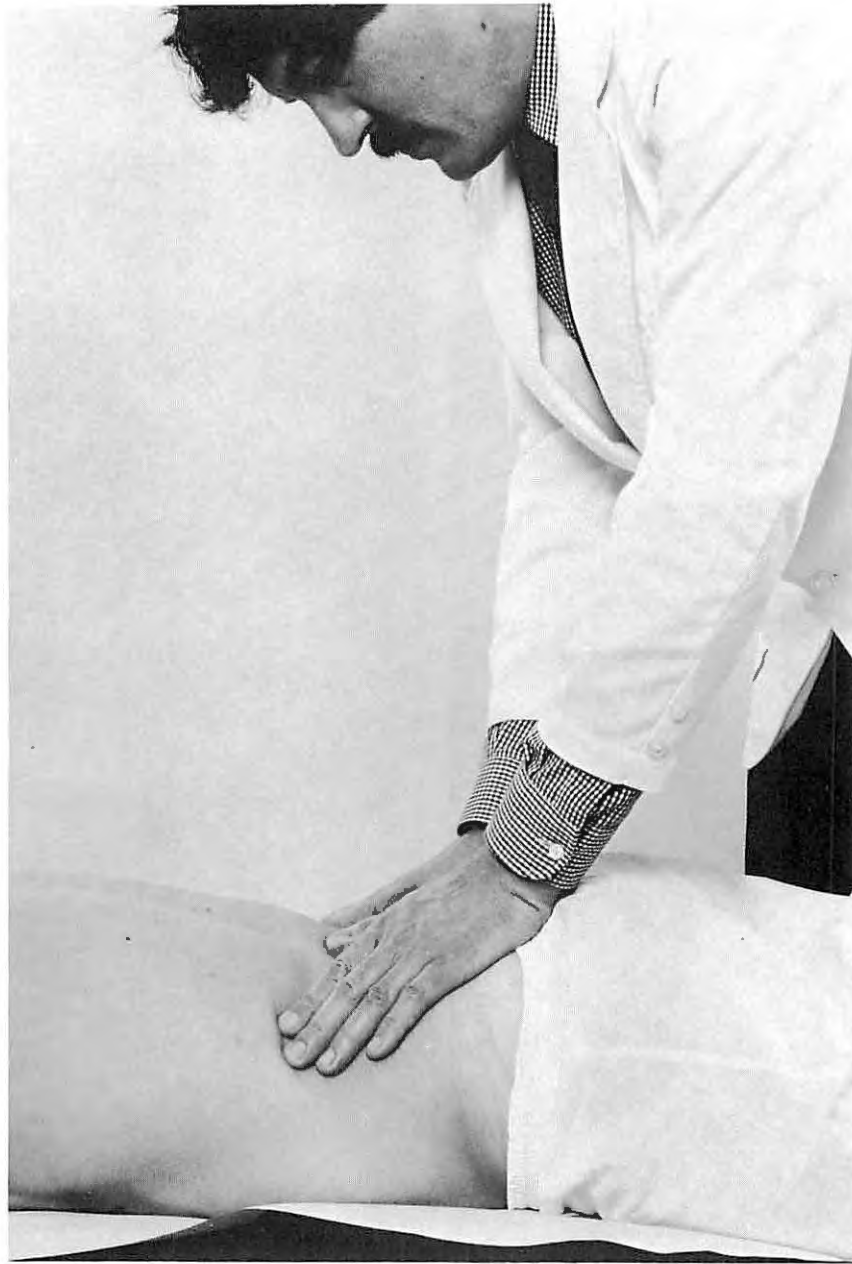


Figure 5.20
Prone or face down position for posterior to anterior adjustment of the lumbar vertebrae.

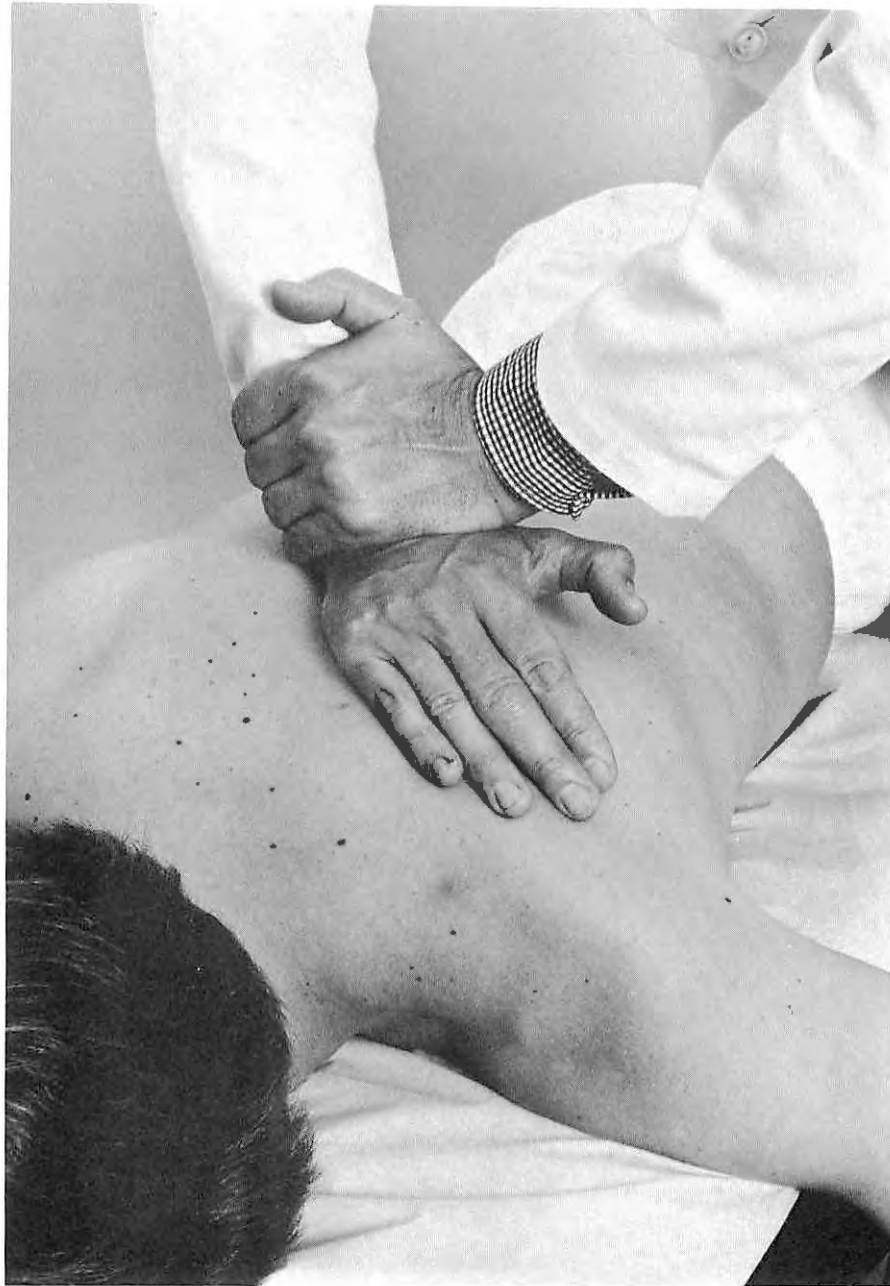


Figure 5.15
Direct transverse contact

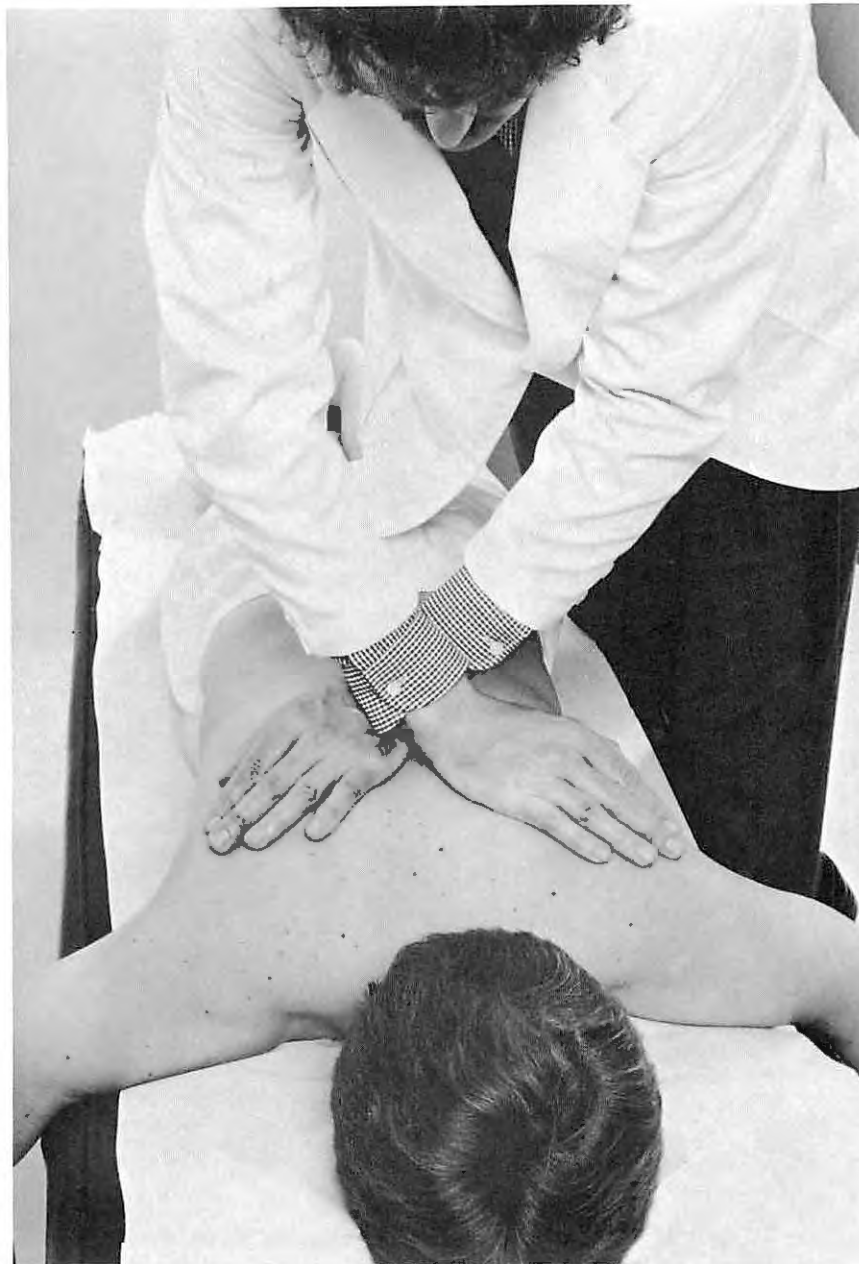


Figure 5.16

Prone or face down positioning for direct double-transverse contact exerting contra pressure for posterior to anterior and rotary adjustment of thoracic subluxations.

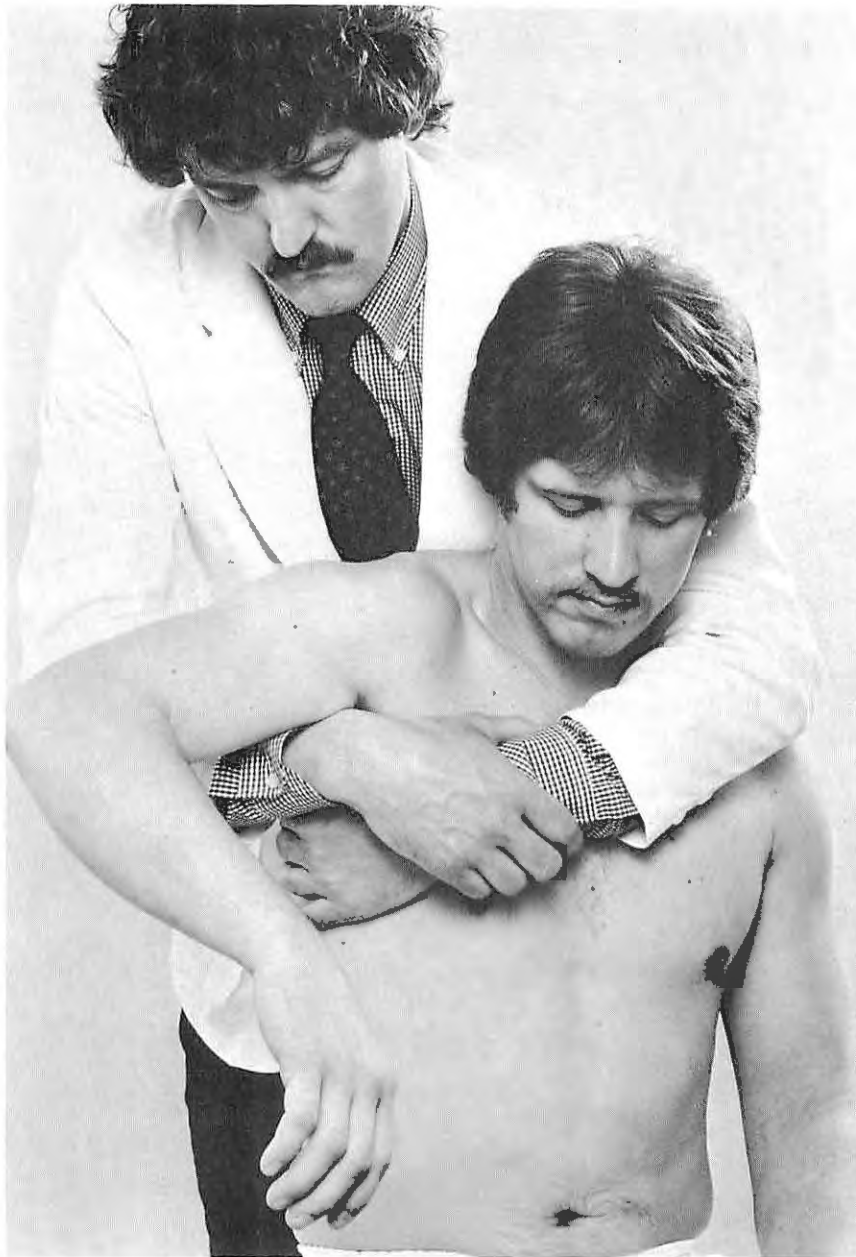


Figure 5.17
Seated positioning with adjustor contacting from posterior.



Figure 5.18
One adaptation of prone position—right side-lying.



Figure 5.21
Knee Chest positioning for adjustment of lumbar vertebrae.



Figure 5.22
Seated Position for Rotary Adjustment of the Lumbar Spine.



Figure 5.23
Prone or face down positioning for posterior to anterior adjusting of the lumbar vertebrae.



Figure 5.24
Seated position utilizing posterior knee contact for posterior to anterior adjusting of the lower thoracic or lumbar vertebrae.



Figure 5.25
Prone or face down position for posterior to anterior adjusting of the sacrum or ilium.



Figure 5.26
The use of wedges to realign the pelvis-sacrum and spine.



Figure 5.27
Low force adjustment of the sacrum



Figure 5.28
Thumb contact for adjustment of the coccyx.

For this adjustment the clinician usually stands beside the patient's shoulder with one hand on the lateral superior aspect of the head, and the other—the contact hand—on the opposite side, over the vertebra to be adjusted. Traction is applied, reducing joint slack, and then the arms are contracted in a scissors-like, rapid motion, putting leverage on the cervical spine.

There are many variations of this basic position and maneuver, some with the head turned to the side opposite that where the contact hand is placed, others in which contact is made with the thumb. The basic mechanism is the same, utilizing the weight of the head in motion as leverage to move the vertebrae below it.

Of all forceful cervical adjustments excluding those executed with an isometric thrust, the prone method is probably the safest, as there is less rotation of underlying soft-tissue structures such as the spinal cord and vertebral arteries, and thus much less chance of damage.

5 Chiropractic Management of Cervical Spinal Disc Problems

5.4.1 Disc Lesions and Degeneration

The cervical discs are located between the inferior aspect of the axis or second cervical vertebra and the inferior surface of the last cervical vertebra, the seventh. They are thicker on the anterior aspect producing the normal forward arc or lordosis of the cervical spine as a unit. Also, they are slightly narrower than the vertebral bodies to which they are attached. The nucleus pulposus in this region of the spine is positioned more anteriorly than in other portions, and the discs normally bulge anteriorly beyond the adjacent vertebrae.

Most orthopedic experts maintain that disc protrusion in the cervical area is unlikely without severe soft-tissue damage. In discussing disc lesions and degeneration in the cervical spine, De Palma says that one must use precise terminology to differentiate the pathologies affecting the complex structures in this region. He discusses the acute pathology of nuclear herniation in which a circumscribed mass is formed by the extrusion of nuclear material through a tear in the annulus. These lesions are classified as dorsal, intra-foraminal, lateral, or ventral. They are usually found in young people and most frequently are associated with trauma. The more diffuse, annular protrusion is most often seen in the middle-aged and elderly, and is attributed to long-term stress and debilitation. Both may gradually develop into a diffuse degeneration associated with cervical spondylosis. Cervical-disc degeneration is not considered an isolated occurrence, but is thought to be intimately related to cervical spondylosis; because it allows the vertebral bodies to set off a reactive process resulting in the formation of osteophytic spurs. These in turn can encroach upon nerve spaces and produce neurological problems. Thus, changes in one part of the complex cervical spine as a result of trauma or wear and tear can precipitate a chain reaction affecting all parts of the unit and the area supplied by its nerves and blood vessels.

Studies show that discs below the C3-4 level exhibit a high incidence of involvement and the severest changes. The cervical interspaces most frequently involved are C5-6 and C6-7.

5.4.2. Clinical Evaluation of Cervical Disc Disease

The following are mandatory to properly evaluate cervical disc conditions: a thorough history; complete chiropractic, orthopedic, and neurological examination of the upper and lower extremities; and routine radiographic examination of the cervical spine, including anteroposterior, lateral, and oblique views. These are necessary not only to diagnose nerve-root compression but also as a baseline for the evaluation of myelopathy should it develop.

The onset of pain in cervical disc conditions may be gradual or immediate. If trauma is involved, the patient usually reports that the pain began within several hours of the injury, but it may also have been delayed for as long as 72 hours. Without a history of recent trauma, a patient usually describes his pain as an aching and stiffness, often noted on awakening. Most patients with this cervical-disc syndrome secondary to disc degeneration will develop associated pain in the shoulder girdles, upper extremities, and head. De Palma describes four general categories of pain associated with this complex condition (Table 5.2).

Pain and radiculitis may be reproduced by decreased range of cervical motion, pain on hyperextension, paravertebral muscle contractions, diffuse tenderness over posterolateral muscle masses, localized tenderness over individual intervertebral foramina and spinous processes, and compression of the vertex of the head. Stimulation of cervical sympathetic elements may produce inequality of pupil size or Horner's syndrome. Common radiographic signs are loss of height of the intervertebral disc space, osteophyte formation, encroachment of the intervertebral foramen, osteoarthritic changes in posterior joints, and possible anterior disc bulging as a soft-tissue shadow.

5.4.2.1 Compression of the Spinal Cord by a Ruptured Cervical Disc

It is easy to misdiagnose disc protrusion. Its symptoms are also those of degenerative diseases such as multiple sclerosis, amyotrophic lateral sclerosis, and subacute combined degenerative and neoplastic compression of the spinal cord. The onset of symptoms is usually gradual, but massive disc rupture occasionally does occur, causing sudden paralysis and even death. Protrusion of the disc substance at the midline is uncommon, but when it does take place, compression of the spinal cord produces mostly lower-extremity symptoms such as spasticity, hyperactive patellar and Achilles reflexes, ankle and patellar clonus, and ataxic and/or awkward gait. Sensory changes are seldom marked and have no particular pattern.

The upper extremities present lesser symptoms, including paresthesias, muscle weakness, and clumsiness. When the protrusion is to one side of the midline, Brown-Séquard's syndrome results, which corresponds to hemisection of the cord. Pain and temperature sense is lost on the opposite half of the body, and sense of position, vibration, deep pain, and light touch, as well as motor function, are lost on the ipsilateral side.

De Palma warns that patients who have undergone an extensive laminectomy, particularly involving the articular facets, often end up with a degree of instability that subsequently leads to intervertebral disc degeneration. In addition, if cervical musculature is weak, the ability to compensate is severely compromised and frequently relief may be obtained only by an anterior cervical fusion. Spinal adjustment utilizing any force other than extremely gentle soft-tissue manipulation is absolutely contraindicated.

5.5.1 Thumb Contact over Spinous Process of Rotated Vertebrae

To adjust a specific lower-cervical or upper-thoracic vertebra (T1-2), a direct-contact maneuver over the spinous process is sometimes used as here transverse process contact is difficult. The other hand is placed over the superior aspect of the head on the opposite side, and a rapid, scissors-like arm action completes the adjustment. A common variation of this prone head leverage maneuver is to place one hand over the transverse process of the rotated vertebra and to apply leverage against that head with the other.

With these maneuvers there is only moderate rotation of the soft tissues and much less chance for damage than with corresponding rotary movements of the cervical spine.

5.5.2 B. Seated, with Adjustor Contact from Posterior

The arms and shoulders are often used to apply leverage from the posterior to enhance rotary correction of thoracic subluxations that resist direct attempts. Using a larger portion of the spine or another body part as a lever while applying direct pressure with hand, knee or chest, the adjustor can overcome the body's resistance, assist the movement, and accomplish the realignment.

5.5.3 Supine (Face Up), with Adjustor Exerting his Body Weight

This position is employed to reduce anterior misalignments of the thoracic spine. The adjustor's clasped fist becomes a fulcrum over which vertebrae "glide" on exertion of downward pressure on the patient's folded arms. As with all thoracic maneuvers, the adjustor will often sense the movement of ribs attached to the spine on the posterior, and he must take care not to tear these articulations or fracture the bones.

5.6 Adjustive Reduction of Thoracic Subluxations

5.6.1 PRONE OR FACE DOWN

A widely used, orthodox, and efficient maneuver for reducing posterior rotary subluxations of the thoracic region of the spine is the transverse process contact adjustment with direct force over the specific rotated vertebra. Another method, a double-transverse contact with contra-pressure over the adjacent vertebrae, is actually more comfortable, reduces chances of injury, and produces a more effective movement of the offending vertebrae.

5.6.1.1 Direct Transverse Contact

Pressure over the left transverse process of B would correct a left posterior rotary subluxation; however, C may also rotate slightly.

5.6.1.2 Direct Double-Transverse Contact Exerting Contra-Pressure

One hand makes direct contact over B while the other exerts contra-pressure over C, stabilizing it so that rotation between B and C is more complete.

Both maneuvers include a sudden, thrusting motion utilizing the weight of the adjustor to overcome the patient's body resistance to the invasive force. The thrust can be enhanced and more comfortably received if it is coordinated with patient inhalation or exhalation.

5.6.3 CAUTIONS AGAINST ADJUSTING

A high statistical correlation exists between disc degeneration, posterior osteophyte formation, and reactive changes around the joints of Luschka. Subluxation of the facets of the apophyseal joints has frequently been noted with advanced disc degeneration. Also, with cervical spondylosis some reduction in the anteroposterior diameter of the spinal canal usually takes place. When this occurs with a canal that was originally small, the chances for cervical myelopathy are greatly increased. An abnormally small spinal canal can pose a very serious risk to cervical-spine adjustment with a rotary maneuver. Extreme caution is indicated when radiographs show osteophytes. In flexion-type fracture dislocations, there is often an avulsion of the disc from its attachment to the superior vertebra and less frequently to the inferior vertebra.

In hyperextension injuries, where there is a teardrop type of fracture, the nucleus may herniate into the fracture site itself.

5.7 CHIROPRACTIC MANAGEMENT OF THORACIC DISC LESIONS

The thoracic discs are thinner than those in the cervical and lumbar areas, and an equal anterior and posterior height. Thus the normal posterior curve, or kyphosis, is due primarily to the shape of the vertebrae. The relatively close proximity of the vertebral bodies and the supporting rib cage reduces the mobility of the thoracic vertebral column compared to that of the cervical and lumbar regions.

The neural canal is small in this area, and there is relatively little space between disc and cord, leaving the latter at the mercy of an undetected and untreated protrusion. Posterior protrusions here can be classified as central, central-lateral, and lateral, with nearly one-half in the first category. Lateral herniation of the nucleus produces a typical nerve root compression syndrome with unilateral pain limited to one or two dermatomes. Central and central-lateral discs involve the long tracts to varying degrees, depending on their location; both the back and the lower extremities can be involved. A central protrusion can diminish sphincter control.

Protrusions of intervertebral discs in the thoracic spine are relatively rare and present a confusing clinical picture. De Palma states that too often patients are diagnosed late, one to two years after the onset of their symptoms and after having been treated for a variety of visceral disorders.⁸ Meanwhile the thoracic cord may have sustained irreversible damage before the pressure is relieved by surgery.

5.7.1 Treatment of Thoracic Disc Problems

Thoracic disc problems appear predominantly in males in their fifth decade, most often at the ninth, tenth, and 11th spaces. They account for approximately two to three per thousand disc operations. De Palma states that there is no place for conservative treatment in cases of thoracic disc lesion. He is emphatic that surgery is the only remedy:

The indication for operative intervention in thoracic disc lesions is clear once the diagnosis is established; the only treatment that may benefit the patient is removal of the protrusion and decompression of the cord. There are no contraindications except poor general health in a patient already debilitated by the disease. It should be remembered that thoracic disc lesions are progressive; a patient not operated on can only get worse. The episodic nature of the disease punctuated by appearances of remissions is very misleading and should not influence the decision to operate.⁹

Many chiropractors claim that specific spinal adjusting can relieve thoracic disc problems, manifested in a slight to moderate disc bulging. This may be true, but again the question of accuracy of diagnosis arises. Was the problem a disc—or radicular pain from a roughened joint surface that was subluxated and “jamming” a foramen? Chiropractors routinely relieve pain in the thoracic region by spinal adjustments, but do they know its origin—muscle contractions, referred visceral pain, or radicular pain? Of course, the patient does not care so long as he gets relief. The chiropractor should care, and he must take all prudent diagnostic steps to select the proper treatment and protect the patient’s long-term health. Reasonable steps for analysis of persistent thoracic pain, beyond four to six weeks following the onset of trauma or symptoms, would include a consultation with an orthopedist or neurologist.

5.8 Adjustive Reduction of Lumbar and Lumbar/Sacral/Sacroiliac Coccygeal Subluxations

The lumbar and the lumbar/sacral/sacroiliac regions are stronger and heavier than the cervical and thoracic. Ingenuity and great leverage are required to overcome the resistance created by the massive,

interlocking, articulating processes connected by wide, ligamentous bands and thick layers of powerful muscles. Resistance to joint movement is often a natural defensive reflex. Permanent damage can result if this resistance is overcome by an inappropriate maneuver or excessive force directed into an already swollen, injured region.

5.8.1 Side-Lying or Lumbar Roll

The purpose of this widely used adjustment is to realign lumbar vertebrae with the sacrum and to realign the intervertebral discs with the lumbar vertebral bodies. It extends all of the lumbar articulations in rotation and, to a lesser degree, the thoracic-region joints. The adjustor positions himself alongside the patient. He places one hand over the iliac crest, sacral base, or lumbar vertebrae, and the other on the superior shoulder or over the crossed arms of the patient. The adjustor removes joint slack by rotary stretch in opposite directions; then delivers a sudden thrust. For additional leverage the chiropractor may place his knee close to the table beside the patient's flexed, superior leg and exert downward pressure at the moment of thrusting.

If the lumbar roll is not administered with extreme care and with consideration for the condition of the underlying soft tissue, it can have disastrous results: muscle or ligament tearing, disc rupture, avulsion fractures, posterior-joint arthrosis, nerve-root trauma, or spinal cord damage.

Variations of this adjustment are aimed at moving the sacroiliac articulations either forward (most frequently) or backward (seldom). Sometimes an assistant applies extension to the superior leg to facilitate joint movement and separation of the articulations by traction. Depending on the desired correction, the contact point may be over the sacral base on either side, or over the inferior or superior aspect of either iliac bone.

5.8.2 Prone or Face Down, for Posterior-to-Anterior Adjusting

The basic adjustor stance for this maneuver is alongside the table leaning over the patient with hands clasped over the contact vertebra, or one hand on each side of his midline. An adjustive thrust is administered with emphasis on rotation of the vertebra from its abnormal position and moving it from posterior to anterior.

5.8.3 Knee-Chest

One common variation of a basic prone-position maneuver is the knee-chest. The patient kneels on a padded bench with crossed arms supporting the spine in a near-horizontal position. The adjustor applies a thrust similar to that used on the patient who lies in a straight, horizontal position.

Some tables employed in this maneuver leave the abdominal portion of the body unsupported, permitting an exaggerated forward sway of the lumbar spine. Because of this increased vulnerability, control of force in this position is extremely important.

5.8.4 Seated, for Rotary Adjustment

The patient sits on a stool or bench with his arms crossed over his chest or his hands clasped behind his neck. The adjustor places one hand over the area to be adjusted while he grasps one of the patient's shoulders or one crossed arm with the other. When he reaches the point of allowable non-forceful rotation, the adjustor administers a rotary thrust.

This position is probably employed less frequently than the side-lying or prone, but can be very effective for acute conditions if the patient has found that other maneuvers increase his pain.

5.8.5 Seated, Utilizing Posterior Knee Contact

This maneuver is probably the least often employed of the five basic positions for lumbar adjusting.

The patient is in the same position as for a seated rotary adjustment, with his arms crossed or his hands clasped behind his neck. The adjustor sits on a stool at a slightly higher level than the patient. He grasps the patient's wrists with his forearms under the patient's arms. He then presses both knees against the patient's sacrum or over the lumbar spine, according to the area to be adjusted. The adjustor pulls the patient's trunk toward him while in extension and exerts a brisk force, simultaneously creating counter-pressure with his knees.

5.8.6 Adjusting the Ilium: (Right or Left)

A right or left adjustment of an ilium can be performed in the side posture position comparable to the position for lumbar adjustments. The contact point could be a predetermined area over the bone according to the directions of supposed misalignment and the desired direction of movement to effect realignment.

ADJUSTING THE COCCYX:

I do not believe adjusting of the coccyx is a common occurrence in chiropractic offices, but it is sometimes done for the diagnosis of coccydynia or pain in the region of the coccyx. Force can be exerted on the apex with the index finger to correct an anterior subluxation or the thumb can be placed on either side of the apex to reduce the suspected laterality of the segment. It can also be done in the side posture position but I believe the most common position would be prone with the adjustor contacting the segment with his thumb.

5.9 Chiropractic Management of Lumbar Disc Conditions

Both the liberal and the conservative schools of thought within chiropractic respect the complexities and possible long-term effects of lumbar disc problems. Chiropractors, of course, are not trained to perform myelograms, electromyography, or other invasive diagnostic techniques. They are taught to refer to neurologists patients in need of diagnostic services beyond their scope. Proper chiropractic management of a lumbar disc condition, like proper handling of any spinal problem, requires a thorough history and examination, radiographic studies, and possibly laboratory tests; and only then treatment or referral.

The examination of the patient begins when he enters the chiropractor's office. Mental attitude, facial expression, gait, posture, and movements should be noted. Careful observation of pain responses and spinal inspection beget accurate diagnosis, and thus successful treatment or referral (see tables 4.7 and 4.8).

The history is of particular importance. Properly taken, it will often suggest a diagnosis that physical testing later confirms. To gauge the severity of disc displacement, some chiropractors grade the intervertebral disc syndrome according to the degree of radiation of pain and extension of paresthesia. One teacher uses the following system:

- Grade I:** Radiculitis/Paresthesia to back and buttocks
- Grade II:** Radiculitis/Paresthesia to posterior thigh and popliteal fossa
- Grade III:** Radiculitis/Paresthesia below knee¹⁰

This cannot produce a definite measure, but does guide the practitioner when he questions the patient about the pain pattern and sensory changes. Symptoms related to lumbar disc conditions are as complex as they are variable, and pain patterns may be constant or sudden, severe or mild, diffuse, localized, or radiating. An exact chronology of symptom progression is invaluable to further diagnostic exploration.

Lumbar disc conditions are most common at ages 40 to 48. Ninety to 95 percent of lesions occur at the L4-5 and L5-S1 levels; lesions at L1-2, L2-3, and L3-4 are extremely uncommon.

5.10 ORTHODOX CRITERIA FOR DEMONSTRATING CORRECTION OF A SUBLUXATION OR IMPROVEMENT IN A SUBLUXATION SYNDROME

Despite the subjectivity involved, the primary means of determining whether subluxation correction has been successful is patients' physical and mental response and reports of reductions of symptoms. The objective signs and structural-spinal anomalies observed during the initial examination may or may not change after treatment. Partial or complete resolution of the objective signs may coincide with a patient report of no improvement, exacerbation of the original symptoms, and/or new problems. Conversely, patients often claim to recover completely from their initial complaints and resume full functions, but upon examination retain the physical signs that originally indicated a subluxation. Thus changes in a patient's attitude about his illness, coupled with functional improvements in his spine, may result in a "cure" while basic joint conditions remain unaltered. Therein lies the often intangible but powerful psychosomatic element to chiropractic care.

5.10.1 Palpation of Spinal Structures

Palpation, the act of probing spinal structures with light finger pressure to determine structural consistency, is the most popular means of gauging spinal alignment. Its shortcomings are admitted by even the most proficient practitioners, who will readily explain that they are only reading what the deep tissues, often anomalous, irregular, and asymmetric, reveals through many layers of intervening soft tissue. One error-fraught technique is the frequent attempt to determine the alignment of vertebrae by comparing the relative positions of their spinous processes, the bumps one feels when gliding fingers over the back. These bony prominences are often crooked and irregular and sometimes absent. Despite all its possible inconsistencies, however, palpation is a usual and valuable tool in assessing spinal function, especially if it is combined with kinetic studies or motion palpation.

In motion palpation to appraise underlying-vertebrae alignment, the adjustor searches for changes in muscle contraction, spinal contour, and tissue density; and for joint locks or fixations. He compares what he finds after treatment to what he felt during his original examination to guide further therapy.

5.10.2 Visual and Palpatory Assessment of Joint Contour and Motion Correlated with Pain Response

An increase in normal spinal-area contour and motion with lessening of pain usually indicates improved underlying-joint function. Degrees of motion are often measured with a protractor or an arthrometer. Spinal contour can be evaluated with a plumb line or more sophisticated posturo-metric instruments, which record the horizontal and vertical balance of the spine on a graph-paper readout for pre- and post-adjustment comparisons. These measurements are highly subjective, varying with muscle tone, patient placement, and operator. They do, however, indicate general postural alignment, and when correlated with lessened pain during motion, offer valuable information to plan future therapy.

5.10.3 Symptom Reduction as Reported by the Patient

A report of symptomatic relief is certainly not considered hard science. Nevertheless, the patient

is often the best authority on when joint function has returned to normal. When dealing with functional disorders, patient reporting is of primary importance in assessing the efficacy of treatment.

5.10.4 Changes in Nerve Reflexes, Sensory Perception, and Vascular Responses

Instructive information as to the condition of spinal nerve roots and the success of vertebral adjusting may be obtained by (1) retesting spinal reflexes involving motor-nerve pathways related to the spinal nerves, and (2) testing sensory pathways of perception with a Whartenburg pinwheel. The latter is the more subjective and variable method because the results are not directly observable by the practitioner. Information so gleaned is considered valuable but not definitive.

Vascular monitoring of the upper and lower extremities offers another clue to the alignment of bony spinal structures. Changes in peripheral vascular flow, however, can indicate local pathology as well as various systemic diseases. The practitioner should seriously consider referring the patient who manifests such changes for medical evaluation.

5.10.5 Visible and Measurable Alterations of Spine—Vertebral Alignment in X-Ray Plates

Improvements in spinal alignment can often be observed without measuring. Return to a more normal spinal configuration is considered to be evidence that individual subluxations have been reduced. This allows spinal muscles and ligaments to alter their contractile state and length, resulting in a shift of the spine to a more balanced, erect position. Changes in intervertebral-disc spacing, posterior-joint apposition, and individual vertebral alignment can be measured with several line-drawing techniques that compare adjacent structures to what would be considered a normal position.

5.10.6 Skin-Temperature Recording Devices

Since B.J. Palmer developed and successfully marketed the first skin-temperature recording device, the neurocalameter, chiropractors have used variations of this simple, two-pronged instrument to check for differences from one side of the spine to the other. According to theory, if during post-adjustment examination less side-to-side variation is found, this indicates that nerves have been released and vascular activity more equalized, allowing for a normal, even skin temperature.

5.10.7 Comparing Leg Length

Spinal subluxations are thought to create an imbalanced physiological tension in the spine demonstrable by comparing leg length with the patient in a relaxed supine or prone position. A change in leg length indicating less difference between the two is considered a routine sign of successful vertebral-subluxation reduction. Congenital and traumatic anatomical differences are considered a fixed variable and allowed for in all checks.

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TABLE 5.1
Basic Method of Subluxation Identification by Line-Drawing Procedures and
Visual Assessment on Radiographs

Specific Classification of Vertebral Subluxations According to Direction of Abnormal Movement

Occiput: P = Posterior (left or right)
 A = Anterior (left or right)
 S = Superior (left or right)
 I = Inferior (left or right)

Cervical: (C1-C7)
 P = Posterior
 A = Anterior
 S = Superior (lateral flexion)
 I = Inferior (lateral flexion)
 RR = Right Rotation
 LR = Left Rotation

Example of a listing: C1-PRI = First cervical subluxated
 Posterior right, inferior

Thoracic: (T1-T12)
 P = Posterior
 A = Anterior
 S = Superior (lateral flexion)
 I = Inferior (lateral flexion)
 RR = Right Rotation
 LR = Left Rotation

Example of a listing: T4-ALS = Subluxation of T4
 Anterior left, superior

Lumbar: (L1–L5)

P = Posterior
A = Anterior
S = Superior (lateral flexion)
I = Inferior (lateral flexion)
RR = Right Rotation
LR = Left Rotation

Example of a listing: L5-ARS = Subluxation of L5
Anterior right, superior

Pelvis: (left-right iliac bones, sacroiliac articulation)

AS = Anterior-Superior-Ilium (left or right)
PI = Posterior-Inferior-Ilium (left or right)
LI = Lateral Inferior (Ext. Ilium)
MS = Medial Superior (Int. Ilium)

Example of a listing: LPI = Left ilium—posterior, inferior

Sacrum: A = Anterior (left or right)
P = Posterior (left or right)
S = Superior (left or right)
I = Inferior (left or right)

Example of a listing: S-ASR = Sacrum anterior, superior, right

Femur Heads:

Inferior (left or right)
Superior (left or right)

Coccyx: A = Anterior (left or right)
P = Posterior (left or right)
S = Superior (left or right)
I = Inferior (left or right)

Example of a listing: PSI = Posterior, superior, inferior

TABLE 5.2
Pain Generated By a Cervical Disc Syndrome

1. **Pain produced by compression or irritation of nerve roots**
Accompanied by sensory changes, numbness, and paresthesia, which follow dermatomes
Weakness of various muscle groups
Frequently difficulty with coordination
Pain already accentuated by maneuvers that stretch involved roots is further increased by coughing, sneezing, straining
Sharp, shooting, splitting occipital headaches
2. **Pain produced by stimulation of sensory nerve endings in structural soft tissues supporting the cervical spine**
May be reproduced by injection of hypertonic saline into the annulus
Not localized to a specific dermatome
Vague, aching, not lacerating
Not accentuated by coughing or sneezing
Mechanical in nature; thus is worse with stress, relieved by rest
3. **Pain from cervical myelopathy**
Unique—not intensified by motion or strain
Poorly localized, seldom radiates
Dull, aching, bursting
Usually referred to anterior thighs, buttocks, or subcostal area
Sense of instability, weakness in lower extremities
Possible bowel, bladder symptoms
4. **Pain from pressure on surrounding soft tissues by prominent osteophytes**
Bizarre, often confused with psychoneurotic symptoms
Dysphagia, tracheal compression symptoms
Possible pressure on vertebral arteries
Bizarre visual and auditory symptoms; burning, pressure-like, throbbing headaches from irritation to cervical sympathetic chain⁶

TABLE 5.3
Clinical Manifestations of Specific Nerve-Root Compression:

C5 NERVE ROOT (C4-C5 Disc)

- Pain—neck, tip of shoulder, anterior arm
- Sensory change—deltoid area
- Motor change—deltoid biceps
- Reflex change—biceps

C6 NERVE ROOT (C5-C6 Disc)

- Pain—neck, shoulder, medial border of scapula, lateral arm, dorsum forearm
- Sensory change—thumb and index finger
- Motor change—biceps
- Reflex change—biceps

C7 NERVE ROOT (C6-C7 Disc)

- Pain—Neck, shoulder, medial border of scapula, lateral arm, dorsum forearm
- Sensory change—index and middle finger
- Motor change—triceps
- Reflex change—triceps⁷

TABLE 5.4
Standard, Specific Chiropractic Treatment of Cervical Disc Conditions
ICA (Conservative)

1. Immobilization to allow for healing of torn soft tissues (with soft felt collar worn for two to three weeks full time)
2. Bed rest to relieve burden of supporting weight of head
3. Instructions for proper sleep hygiene (e.g., no prone sleeping)
4. Caution about jolting (e.g., riding in automobiles)
5. Application of ice and moist heat at home
6. Instructions for correction of posture and occupational stress.
7. Isometric exercises twice daily to strengthen neck musculature after initial symptoms subside
8. Prescription for a cervical contour pillow
9. Massage to relieve paraspinal contractions
10. Gradual mobilization exercises after acute stage (three to six weeks)
11. Spinal adjustments
12. Supportive psychological counseling and observation (two to six months)
13. Possible referral for prescription of medication

Standard, Specific Chiropractic Treatment of Cervical Disc Conditions
ACA (Liberal)

1. Immobilization to allow for healing of torn soft tissues (with soft felt collar worn for two to three weeks full time or four-poster cervical brace)
2. Bed rest to relieve burden of supporting weight of head
3. Instructions for proper sleep hygiene (e.g., no prone sleeping)
4. Caution about jolting (e.g., riding in automobiles)
5. Application of ice and moist heat at home
6. Instructions for correction of posture and occupational stress
7. Isometric exercises twice daily to strengthen neck musculature after initial symptoms subside
8. Prescription for a cervical contour pillow
9. Massage to relieve paraspinal contractions
10. Gradual mobilization exercises after acute stage (three to six weeks)
11. Prescription for and fitting of traction for home use
12. Motorized intermittent traction in chronic stage
13. Manual or instrument trigger-point therapy to reduce soft-tissue nodules
14. Contractile electrotherapy to strengthen cervical musculature
15. Ultrasound to reduce inflammation
16. Diathermy to increase blood flow (not with osteoporosis)
17. Spinal adjustments
18. Supportive psychological counseling and observation (two to six months)
19. Possible referral for prescription of medication

TABLE 5.5
History and Clinical Findings for Thoracic Disc Problems

Pain is the most common presenting symptom
 Dorsal or dorsolumbar
 Usually segmental, radicular; unilateral or bilateral
 When symptoms are unilateral, usually slow progression
 When bilateral, onset usually rapid; irreversible trauma results in one-third of cases
 Numbness begins in lower extremities and spreads centrifugally
 Unsteadiness, ataxic gait; Romberg's sign may be positive
 Hyperesthesia, paresthesia less frequent
 Frequent bowel, bladder symptoms
 Possible weakness in legs, most often spastic rather than flaccid paresis
 Limitation of spinal motion; scoliosis and paravertebral muscle spasms
 Late motor reflex changes, with quadriceps and Achilles reflexes increased on weak side
 Absence or diminution of lower abdominal reflexes
 Plantar response may be extensor or flexor
 Roentgenograms show narrowing and irregularity of disc space with osteophyte formation and calcification

TABLE 4.6

Myelography to differentiate from tumor
 Complete neurological examination
 Often serologic tests for rheumatoid arthritis are positive
 Cisternal myelography may be necessary
 Rule out rheumatoid or ankylosing spondylitis, tumors, costovertebral joint syndrome, ulcers, pancreatitis, posterior abdominal wall conditions, genitourinary problems, ischemic conditions of the myocardium, aortic aneurysm, fractures, disc space infections, herpes zoster

TABLE 5.6
Routine Chiropractic Examination Procedures For Diagnosis of Lumbar Disc Lesions

1. Observation of degree of spinal motion, posture, and pain responses
2. Palpation of muscle contractions and spinal percussion
3. Heel-to-buttocks test (sacroiliac)
4. Patrick's test (hip joint)
5. Straight leg raising test
6. Laségue's sign
7. Peripheral vascular examination
8. Sitting foot test
9. Adam's flexion test
10. Valsalva maneuver (cough test)
11. Jugular compression test
12. Reflex testing
13. Sensory examination
14. Examination for motor changes—muscle testing
 - A. Gluteal atrophy (L5-S1)
 - B. Circumference of thigh, calf
 - C. Dorsiflexion, plantar flexion of foot (L5-S1)
 - D. Walking on toes (L5-S1) (heel drop)
 - E. Walking briskly (flap foot, gait L5-S1)
 - F. Walking on heels (L4-5, L5-S1)
 - G. Abduction of hip
 - H. Adduction of hip (L4-5)
 - I. Flexion of hip
 - J. Extension of knee (L4), inversion of foot
 - K. Flexion of knee (L5), eversion of foot
15. Abdominal, rectal, and vaginal examination
16. Laboratory, blood, and urine tests
17. Radiographic studies
18. Neurological referral for additional testing that may include
 - A. Special X-ray studies (bone scan)
 - B. Testing of cerebrospinal fluid
 - C. Electromyography

NOTE: In some states examination of body orifices and laboratory testing is considered standard care for chiropractors. These would be performed to rule out prostate, bladder, rectal, vaginal, and other visceral problems that account for approximately 15 percent of all back pain.

TABLE 5.7
Specific Chiropractic Treatment of Lumbar Disc Conditions

Conservative (ICA)	Liberal (ACA)
<i>Acute Phase</i>	
<ol style="list-style-type: none"> 1. Bed rest (one–30 days) 2. Cryotherapy (ice packs) 3. Static lumbar pelvic traction (three–15 days) 4. Immobilization with lumbar support when up (corset) 5. Gentle massage of paraspinal muscles 6. Osseous adjustments not recommended 7. No electrotherapy 8. Isotonic abdominal exercises 9. Supportive psychological counseling 	<ol style="list-style-type: none"> 1. Bed rest 2. Cryotherapy (ice packs) 3. Static lumbar pelvic traction (three–15 days) 4. Immobilization with <ol style="list-style-type: none"> a. Lumbar support b. Adhesive taping c. Spinal brace (Taylor's and William's flexion maneuvers) d. Lumbar extension body cast 5. Gentle massage of paraspinal muscles 6. Osseous adjustments not recommended 7. Ultrasound and positive galvanic therapy 8. Isotonic abdominal exercises 9. Supportive psychological counseling
<i>Chronic Phase</i>	
<ol style="list-style-type: none"> 1. Instructions for gradual stretching and strengthening exercises (Williams's flexion maneuvers) 2. No intermittent mobilizing traction 3. No electrotherapy 4. Instructions in proper sleeping, work, and recreational hygiene 5. Counseling in weight control and diet 6. Spinal Adjustments 7. Supportive psychological counseling 	<ol style="list-style-type: none"> 1. Instructions for gradual stretching and strengthening exercises (Williams's flexion maneuvers) 2. Frequent employment of intermittent mobilizing traction and antigravitational rehabilitative devices 3. Frequent employment of ultrasound and negative galvanic therapy 4. Instructions in proper sleeping, work, and recreational hygiene 5. Counseling in weight control and dietary balance 6. Spinal Adjustments 7. Supportive psychological counseling

TABLE 5.8

Standard Cautions and Contraindications Concerning Chiropractic Management of Lumbar Disc Conditions

1. When a disc condition is suspected, differential diagnosis is paramount. Conditions such as tumors, aneurysms and fractures must be ruled out.
2. The chiropractor should never attempt a forceful movement of the lumbar spine without proper physical examination, radiographic studies, and a working diagnosis.
3. Spinal adjustment should not be given if the patient is experiencing severe paraspinal muscle contractions.
4. If the patient complains of increased pain when the practitioner attempts an adjustment, the maneuver must not be completed.
5. If the patient complains of pain during or after an adjustment, the maneuver should not be repeated until the patient's condition has been reevaluated.
6. A side-posture, rotary, lumbo-pelvic adjustment should never be attempted during the acute stage of a lumbar disc condition.
7. The frequency and intensity of adjustive care should never be increased when the practitioner is presented with signs and symptoms of increasing disc deterioration.
8. If the patient shows significant apprehension about an adjustment, more conservative measures should be employed until this factor can be further explored and resolved.
9. If a patient becomes disabled or displays significant, abnormal, postadjustment neurological symptoms, such as a *cauda equina* syndrome,¹¹ treatment should be discontinued immediately and the patient sent directly to a hospital or emergency medical clinic.

CONTRAINDICATIONS TO SPINAL ADJUSTING

6.1 Introduction

Many medical investigators who have observed specific chiropractic adjusting and manipulative procedures state that everything that can be accomplished with a forceful thrust can be accomplished with less danger by isometric joint movements and traction. Nevertheless, the drama of "hands-on thrusting" has made it a deeply entrenched part of chiropractic therapy. Anthony F. DePalma, M.D., a renowned professor of orthopedic surgery, has this to say about cervical manipulation:

Manipulation is mentioned only to be condemned in the treatment of acute or chronic disc disorders in the cervical spine. Many tragic sequelae have been described in the literature with the use of cervical manipulation, and it is our feeling that manipulation has no place in the armamentarium of the physician treating cervical spine disorders of this type. It is true that certain acute cervical syndromes will enjoy a symptomatic response after manipulation, but we feel the hazards are too serious in nature to warrant its use.¹

He is equally adamant about lumbar disc conditions:

Manipulation with or without anesthesia is not indicated in the treatment of lumbar disc disease. In many instances, this will intensify rather than ameliorate the patient's symptomatology. The number of cases reported in the literature where a profound neurologic deficit has occurred, secondary to manipulation of the spine, are too great in number to justify the use of manipulation of the spine. It is particularly true when relief can be obtained by more judicious means.²

Other prominent orthopedic educators, such as Ruth Jackson, M.D., author of *Cervical Syndrome*, and Robert Maigne, M.D., author of *Orthopedic Medicine, a New Approach to Vertebral Manipulations*, suggest that adjustment is an invaluable tool that should receive more attention from orthodox medicine. James Cyriax, M.D., of Saint Thomas Hospital, a widely read writer on the subject, views manipulation as having three purposes: (1) to break adhesions, (2) to stretch a contracture, and (3) to reduce an intraarticular displacement. He advocates its use for certain conditions affecting the three regions of the spine, but

cautions about such contraindications as signs of spinal cord involvement, hyperacute lumbago neurosis, and late pregnancy.³

Although debate continues, responsible members of all professions agree that forceful adjusting is proper only after diagnosis has been established by clinical procedures and, if indicated, specialist consultation.

All adjusting is a question of grading directional force and its adaptation to a given individual. The complex adjustive procedure with all its nuances cannot be practiced without mastery of the hands and techniques, thorough training and long application. Effective adjusting is an art. Beginners must be cautious; often rapid success can lead the novice to over-treat, attempting adjustment when the spine should be left to recuperate with rest and exercise.

Some medical conditions absolutely contraindicate manipulation, such as vertebral fractures and pain related to infectious diseases. In less obvious cases, common sense coupled with an objective evaluation prior to every thrust offers the best protection for patient and adjustor.

6.1.1 General Contraindications to Adjustment

6.1.1.1 Osseous Instability from Fractures, Osteoporosis, Vertebral Metastases, Pott's Disease

Forceful adjusting of weakened osseous tissue can result in a partial or near-total collapse of a vertebra or vertebrae causing irreversible nerve-root, vascular, and spinal-cord damage resulting in paraplegia, quadriplegia, or death.

6.1.1.2 Signs of Spinal Cord Impairment—Tumors

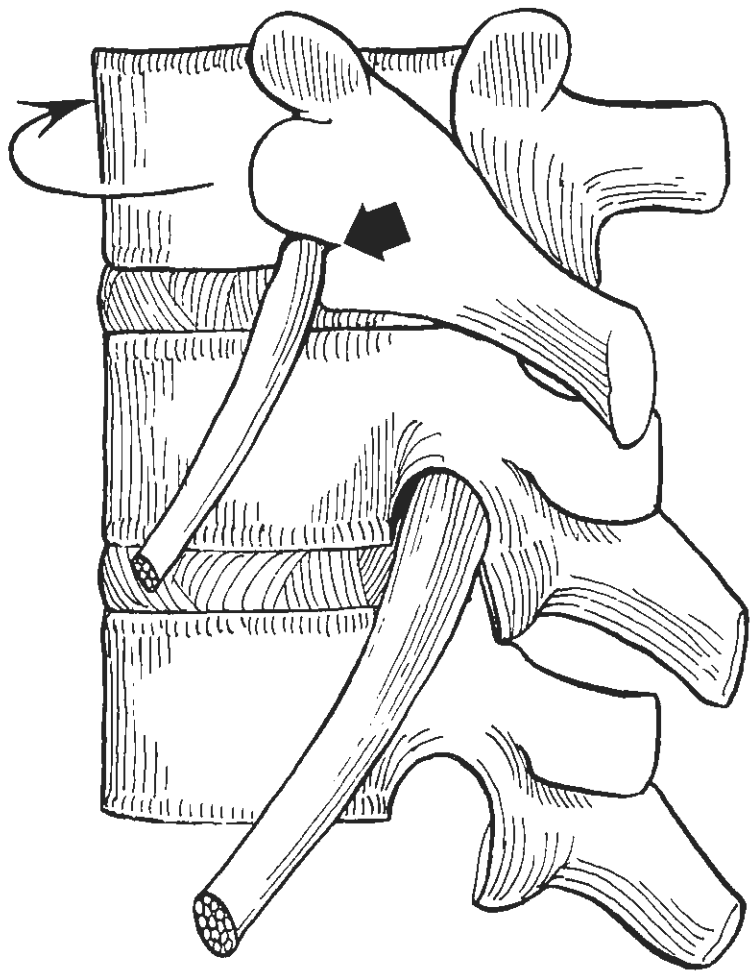
Signs of spinal cord impairment are absolute contraindications to any type of adjustive maneuver. Additional pressure can only aggravate the condition of the cord. Initial specific signs that must be seriously considered are cutaneous sensory disturbance as indicated by pain referred to an area supplied by a cord segment, possibly followed by weakness of the lower extremities, gait disturbances, increase in deep tendon reflexes, and loss of touch, pain, and temperature sensation below the level of the lesion. Bowel and bladder function can also be disturbed and this may appear as a later change. Depending on the location and nature of the tumor, cord symptoms may be mild or severe, and sometimes are asymmetrical.

Standard spinal X-rays may show bone destruction, widening of the pedicles, or distortion of paraspinal tissues. Medical diagnosis would usually uncover an elevation of protein in the cerebrospinal fluid, and monometric examination would reveal subarachnoid blocks. The use of dye in a myelogram, however, is the definitive diagnostic test.

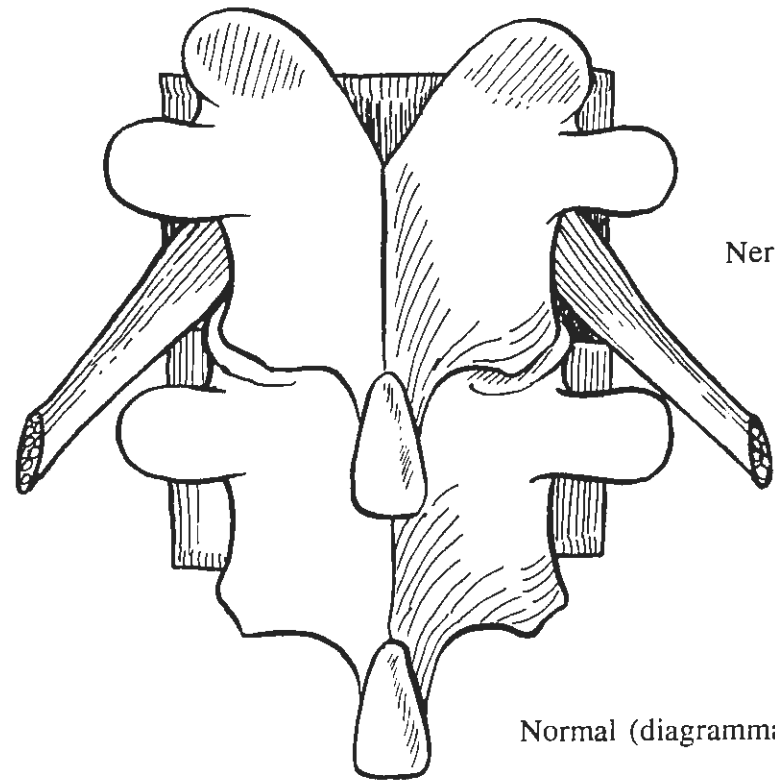
6.1.1.3 Indications of Intracranial Pressure

In a careful history, the practitioner seeking a neurologic diagnosis should particularly explore the primary symptom or sign. Pressure within the skull presents a classic triad of headache, nausea, and vomiting. Additional symptoms may include choked discs affecting vision, accompanied by convulsions, altered consciousness, personality changes, and lethargy. With these symptoms, the major concerns are brain tumor, cerebrovascular disease, or cerebral infection.

Depending on its site, the lesion may produce focal neurologic disorders such as hemiparesis, sensory dissociation, hemianopsia, dysphasia, and signs of basal ganglia, cerebellar, or cranial nerve dysfunction.

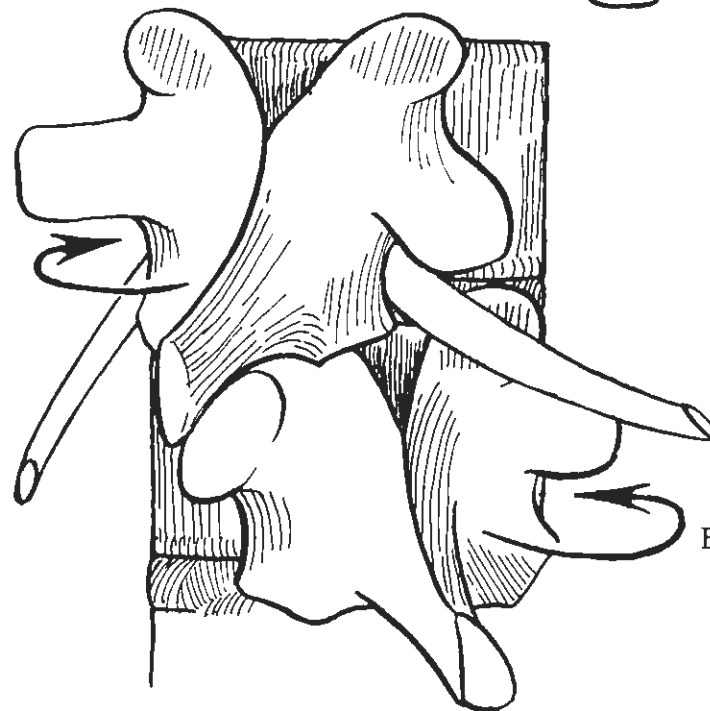


Rotated Vertebrae and pinching
of nerve (bold arrow)



Normal (diagrammatic)

Nerve Root



Excessive Rotation of adjacent
vertebrae and soft tissues
can induce spinal cord
damage-paralysis

A patient presenting symptoms indicating intracranial pressure is not a candidate for any type of spinal adjusting and, of course, should be immediately referred for neurological diagnosis to a medical specialist.

6.1.1.4 Production or Correction of Barré-Lie'ou syndrome

A poorly executed cervical adjustment may generate all the symptoms manipulation is supposed to treat. Thus, an adjustment to the cervical spine administered with excessive force, in the wrong direction, or without thorough knowledge of irregularities of cervical structure can elicit headaches, vertigo, subjective dizziness, voice changes, feelings of laryngeal constriction and obstruction, anxiety, memory problems, visual disturbances, or buzzing in the ears—in essence Barré-Lie'ou syndrome. First described in 1925 by Barré of Strasbourg and his pupil Lie'ou, it is also termed the sympathetic posterior cervical syndrome because its discoverers initially held that its cause was related to irritation of sympathetic nerve fibers by cervical arthrosis. They later abandoned this theory and current opinion leans toward an involvement of the vertebral artery wherein its capacity to supply blood to the brain is compromised.

The symptoms most often appear in those over 50. They are rarely seen together and can be elicited by neurosis, trauma in a normal cervical spine, or minimal disturbance, such as neck cramping on a pillow, which causes cervical joint derangement. Barré-Lie'ou syndrome is amenable to manipulation, but adjustors should proceed with extreme care when attempting any lateral flexion or rotary maneuvers of the cervical spine.

6.1.1.5 Vertebral Spondylosis, Osteophyte Formation and Spinal Arthritis

Following trauma, changes in the intervertebral discs, ligaments, and adjacent vertebral bodies can occur diffusely with new bone growth, osteophytes or osseous spurs that act as “splints” between vertebral bodies. Ridges also develop on the anterior wall of the spinal canal causing varying degrees of occlusion of the intervertebral foramen resulting in clinical radiculitis. Sclerosis is the roughening and thickening of the posterior apophyseal joints of the spine, commonly called degenerative arthritis. All of these developments are serious warnings against further spinal manipulation.

6.1.1.6 Reduction in the Anteroposterior Diameter of the Spinal Canal

If a small canal undergoes further reduction in diameter, the chances for spinal cord contusion and compression during trauma are increased.

6.1.1.7 Spinal Instability

A general debilitating or long illness that may be accompanied by prolonged inactivity can result in a looseness or instability of joint structures—abnormal laxness of ligaments. When adjusting spinal joints in this condition, one must take extra care to avoid excessively repetitive movements. Thorough instructions must be given regarding gradual, consistent, rehabilitative exercises. Degenerative changes of the spine are frequently found in the later decades of life. However, chronology is not an exclusive cause of spinal instability and many other intrinsic and extrinsic factors may be involved.

Other specific precautions should be taken in treating spinal instability after surgery as well as congenital and developmental osseous malformations.

6.2 Spinal Instability Related to Congenital and Developmental Osseous Malformations—Specific Cautions for Administering Spinal Adjustments

The functional motor unit of the spinal column is comprised of two vertebral bodies, an intervening disc, the two posterior joints, ligamentous structures binding the two vertebrae to one another, and the extensor muscles of the back crossing the level of the intervertebral discs.

A motor unit may be stable or unstable before or after surgery, and it may be made worse by excision of the disc and removal of the posterior ligaments and some of the posterior bony elements of the vertebra. When all or part of the posterior joint processes are removed in cases of spondylolysis and spondylolisthesis, subsequent instability is certain and may cause back pain and either radicular or referred leg pain. Another concern following disc excision is the development of severe secondary degenerative changes within the motor unit consistent with arthrosis of the intervertebral and posterior articular joints. Such a joint may fail to progress to a solid, fibrous fusion, but instead may remain quite unstable.

Extreme caution must be observed when attempting to adjust an area altered by prior surgery. Of course, the practitioner should not apply force over the bones affected. Also, adjacent healthy or unhealthy motor units will be bearing more than their share of the spinal load and will be more vulnerable to injury than motor units that are not closely related to the area of fusion.

A spine weakened by congenital or developmental problems is especially vulnerable. A congenital spinal variation is not confined to the osseous elements; the supporting soft-tissue structures are often affected, which complicates diagnosis and evaluation of joint stability. The resulting configuration of many spinal anomalies reduces the size of the spinal canal or intervertebral foramen, which may be further compromised by secondary changes in the soft tissues of the affected region.

It is essential to obtain radiographs to pinpoint potential problem areas. Without radiographs, no adjustive force other than soft-tissue manipulations or a non-forceful reflex technique should be practiced on the spine.

6.2.1 Cervical Spine—Congenital Block Vertebrae

Congenital fusion of two or more vertebrae, which is usually quite obvious on clear radiographs, places an added strain on the adjacent vertebral joints as they attempt to maintain the functions of the neck. This condition often shows degenerative joint changes with osseous spurring at, above, or below the level of fusion, and frequently appears between C1 and C2, C2 and C3, and C7 and T1.

6.2.2 Basilar Impression

Basilar impression is a developmental deformity of the occipital bone and upper end of the cervical spine, in which the latter appears to have pushed the floor of the occipital bone upward. It may be congenital or acquired, secondary to increased sclerosis of the base of the skull, which may occur in Paget's disease.

6.2.3 Congenital Synostosis of the Cervical Spine

Congenital synostosis of the cervical spine, also known as Klippel-Feil syndrome, results from an arrest in development. This rare condition is identified by fusion of all, or of only the lower cervical vertebrae into one mass of bone. The most noticeable feature is abnormal shortness of the neck, which sometimes causes the head to seem to rest directly on the trunk. Attempts by physicians to increase mobility by manipulation have proven harmful.

6.2.4 Ossification of the Posterior Atlantooccipital Membrane

Ossification of the inferolateral margin of this membrane is usually found bilaterally. This forms an arch over the vertebral artery and the first cervical nerve root as they pass through the posterior atlantooccipital membrane. This arch or canal may actually afford them protection; however, injury to the cervical spine can cause adhesions to form among the artery, nerve root, and bony arch.

6.2.5 Unilateral or Bilateral Cervical Ribs

This common condition may be a significant factor in arm and hand syndromes. To obtain permanent relief, surgical excision is sometimes required.

6.2.6 Enlarged Posterior Tubercle of Posterior Arch of Atlas

An enlarged posterior tubercle of the posterior arch of atlas disturbs normal motion in the atlantooccipital area. This is often accompanied by changes in structure and motion of the atlantoaxial of C1-2 motor unit.

6.2.7 Underdevelopment or Absence of one or More Vertebrae or Their Articular Processes

The various types of altered development may remain entirely asymptomatic. The clinician must remember, however, that manipulative therapy could create complications more aggravating and disabling than the original symptoms.

6.2.8 Congenital Narrowing of the Cervical Spinal Canal

The average width of the cervical spinal canal is 24.5 mm; the average anteroposterior dimension is 14.7. The canal is triangular. The cord that fills it—in varying percentages in different individuals—is oval. If spondylosis develops, particularly in a small canal, the critical relationship between cord and canal can be compromised and a disastrous myelopathy may occur. The chiropractor must be alert to spinal cord symptoms and suspect cervical anomaly, especially with cervical spondylosis as an added indicator.

6.2.9 Thoracic Spine

The thoracic spine, well supported by the rib cage and assuming a less demanding role in movement than either the cervical or the lumbar regions, might be thought less prone to anomalies. Irregularities do occur, however, and include blocked vertebrae, hemivertebrae, and congenital absence of one or more segments. When the individual with such difficulties stresses the spine in the erect posture, spinal curvatures or true scoliosis may result. Although in this region injury from forceful adjustment is less likely than in others, a careful examination and evaluation must precede any therapy.

6.2.10 Most Common Congenital Lumbosacral-Spine Conditions

One of the most successful evolutionary developments of man—standing on his hind legs and thus freeing his upper limbs for other activities—came at a significant cost. A greater burden of body support was placed on the lower lumbar and lumbosacral regions, which even under ideal conditions are often made to meet functional stress demands beyond their capacity.

More anomalies occur in the lumbosacral region than in any other area of the spine. Many are associated with degeneration of the lumbar disc of the involved motor unit. Some of these variations are better able than others to meet the functional demands imposed upon them. All may degenerate under

excessive stress with age. The body often attempts to reinforce such weakened articulations by thickening of ligaments, calcification, and forming osteophytes. To plan an appropriate therapeutic regime, the adjuster must take into account the anomaly and the body's response to it.

6.2.11 Spondylolysis

This relatively common abnormality is characterized by a defect in the neural arch, midway between the superior and inferior articular facets, on one or both sides. Some practitioners believe spondylolysis results from excessive stress, as does a fatigue fracture, rather than from developmental error. This defect is readily seen on good oblique views of the lumbar spine. In long-standing cases the line of the defect is irregular, and the adjacent bone shows increased density and sclerosis. Many of these defects cause no symptoms. With those that do, the patient usually experiences mild, deep-seated pain in the lumbar region. Incapacity is rare; mild muscle spasms may be present, but radicular pain and motor, sensory, or reflex changes do not occur.

6.2.12 Spondylolisthesis

Spondylolisthesis usually occurs with the fifth lumbar vertebra but sometimes with the fourth or third. Its main features are dissolution of both neural arches between the superior and inferior articular facets, and anterior displacement of the vertebral body on the vertebrae below.

The degree of forward displacement is clearly seen on lateral radiographs. It varies greatly, and is usually graded from one to four, according to the amount of vertebral movement. In some cases, the anterior migration continues until the affected vertebra is in front of the lower vertebra. There is disagreement about the etiology, but it is clear that heredity plays a role.

The configuration of the lumbar spine at the affected level is markedly altered, producing a very unstable motor unit that distorts the spinal canal and intervertebral foramina. The instability often contributes to disc degeneration and advanced, proliferative soft-tissue changes. Large, irregular masses of fibrous tissue are formed in which the nerve roots become enmeshed. Fibrous-tissue pressure on the nerves often produces deep-seated pain of the lower back, thigh, and buttocks and radicular pain. Patients are seldom aware of any sensory or motor deficits; however, difficulty in bladder and rectal-sphincter function has been reported.

It is not uncommon for people with spondylolisthesis to report nothing but occasional, mild discomfort; however, with trauma or excessive stress, the condition can become chronically painful and disabling. Adjustive thrusting, such as the lumbar roll or side-lying rotary maneuvers, should never be used as stressful force can only aggravate, expand, or prolong symptoms and create complications and disability.

6.2.13 Exaggerated Lumbosacral Angle

This relatively common abnormality, an accentuation of the lordotic curve, places excessive stress on the posterior articulations among L4, L5, and S1, areas poorly adapted phylogenetically to meet even normal stress demands. Radiographic study may show subluxation of the posterior articular facets, arthritic changes, disc degeneration, narrowing of the intervertebral space, and associated changes in adjacent vertebrae. The patient may experience pain ranging from deep-seated discomfort to severe pain with strenuous spinal function. There are no motor, sensory, or reflex abnormalities, but in severe forms, the fifth lumbar is thought to exert pressure on the dural sac and narrow the spinal canal. The posterior articulations between L4 and L5 are subjected to abnormal shearing stresses. Rotational adjustment can add further critical stress to these joints.

6.2.14 Increase or Decrease in the Number of Lumbar Vertebrae

It is relatively common for the number of free lumbar vertebrae to vary. This may distort functioning and thus predispose the lumbar discs to degeneration. Radiographs may reveal four or six vertebrae, the difference arising from lumbarization involving the first sacral vertebra, sacralization of the last lumbar vertebra, or a reduction or increase in the number of thoracic vertebrae.

6.2.15 A Sacralization of the Fifth Lumbar and Lumbarization of the first sacral vertebra

These common abnormalities are representative of the changeable nature of the lumbosacral region. Pseudo-articulations often form between lateral processes of these irregular segments, and rudimentary discs may degenerate. These changes, or mechanical alteration of the area, can produce nerve-root compression and consequent pain, and the patient presents with a painful, mechanical back disorder. Radiologic examination clearly reveals the osseous characteristics, in a variety of joint configurations.

6.2.16 Spina Bifida with Long Spinous Process of L5 Vertebra

Failure of fusion of the posterior bony elements in the midline of the fifth lumbar or first sacral segment produces a common defect known as spina bifida. This bony opening or cleft in the posterior neural arches is almost never a cause of back pain. When spina bifida of the first sacral segment exposes soft tissue and the spinous process of the fifth lumbar vertebra is abnormally long, the latter may press on the unprotected soft tissue containing nerve fibers, especially when the spine is extended. This may result in a dull, constant pain directly in the midline.

6.2.17 Congenital Narrowing of the Lumbar Spinal Canal

In some instances this rare developmental condition is responsible for a symptom complex markedly different from that produced by a lumbar disc problem. Common radiographs show osseous elements of apparently normal proportions; however, myelography discloses an abnormal configuration. The clinical manifestations are lower back pain when the patient is in an erect posture, and relief when he lies down. There are indications of multiple nerve root involvement with diffuse motor, sensory, and reflex changes.

If disc herniation occurs, three factors determine the character and intensity of the ensuing symptoms: (1) the presence or absence of other structural abnormalities, and (2) shape and (3) size of the spinal canal. Shape and size can vary considerably. The canal may be round, ovoid, triangular, or trefoil. The average width in the lumbar region is 23.4 mm, and the anteroposterior dimension is 17.4. There is no practical way to measure, however, before adjusting. The chiropractor must rely on careful observation of evident osseous malformations and symptoms in applying rotary force to the vertebrae. If symptoms worsen when he stretches the area preliminary to thrust, he must reevaluate the case and possibly advise neurological consultation.

6.2.18 Rotational Defects of the Lower Lumbar Vertebrae

The usual sites for vertebral and regional defects are the fourth and fifth lumbar or the fifth lumbar vertebra. An anomaly can produce mild back pain, which may become chronic and severe with degeneration in the intervertebral joints and posterior facets. Radiographs clearly show the osseous disrelationships and degenerative changes.

6.3 Specific Medical Conditions—Cautions and Contraindications to Spinal Adjusting

6.3.1 Rheumatoid Arthritis

Rheumatoid arthritis is a systemic disease characterized by diffuse involvement of mesenchymal connective tissue. The dominant histological feature is chronic inflammation that destroys normal tissue structure through granular tissue formation, fibrosis, and infiltration of lymphocytes and plasma cells. In later stages, scar tissue forms in the joint capsules, contracts, and restricts movement. Bone tissue is inflamed. Articular cartilage becomes thin, then disappears. Fibrous tissue produces fibrous ankylosis, which with ossification progresses to bony ankylosis.

6.3.2 Osteoarthritis

Osteoarthritis, also known as hypertrophic or degenerative arthritis, occurs principally in weight-bearing joints. Although the posterior intervertebral joints are not weight-bearing, they are frequently affected because of the gross interference with their alignment caused by intervertebral disc degeneration. The process begins with deterioration of the articular cartilage, and it is probable that all other changes are reactions to this. Joint surfaces become roughened and irregular, and later osseous spurs or osteophytes form. Joint flexibility, resiliency, motion, and strength are adversely affected. The etiology of osteoarthritis is not well understood, but chondromalacia, injury, and constitutional disorders are considered factors.

6.3.3 Ankylosing Spondylitis

Ankylosing spondylitis is characterized by ossification of spinal joints and ligaments. Little is known about the etiology. The sacroiliac joint is often first affected, and the condition rapidly spreads up the apophyseal joints of the spine. The process begins with destruction of articular cartilage and usually progresses to bony ankylosis resulting in pain, stiffness, and deformity. Radiographs reveal normal discs, but later fluffiness develops and then sclerosis of the involved joints. In time all the paravertebral ligaments are ossified and easily seen in lateral views. Ankylosis usually spreads upward gradually from the lumbar area; in some patients the entire spine is involved within a few months.

6.3.4 Vertebral Osteochondritis

This common condition, also known as Scheuermann's disease, is characterized by gradual thoracic or thoracic-lumbar kyphosis. It results from pathological changes in the vertebrae and discs that cause the former to become wedge-shaped. The deformity begins between the ages of 12 and 15. Often it has begun to develop before there is any pain and before it involves the middle and lower thoracic regions. Principal features on X-ray examination are wedge-shaped vertebrae, Schmorl's nodules, and narrowing of the intervertebral spaces.

6.3.5 Paget's Disease

Paget's disease or osteitis deformans is a chronic, progressive disturbance in bone metabolism of unknown etiology characterized by subperiosteal bone proliferation producing a marked increase in the size of the affected bones.

The spine may be affected as part of the generalized process. Thickening pedicles and laminae may compress the spinal canal, and thickening of the bony elements forming the boundaries of the foramina produces a significant reduction in its size.

There may be motor, sensory, and reflex abnormalities as well as hip, leg, knee, and deep-seated lower-back pain. The back pain is more or less constant but intermittently may be intense. Since the pain is not caused by mechanical impairment or activity, rest has little effect upon it. Diagnosis is readily estab-

lished in standard radiographs and oblique views showing narrowing of the intervertebral foramen and thickening of the foraminal boundaries. Only isometric stretching or non-forceful adjustive techniques can be used on persons with this condition.

Paget's disease is frequently familial, and like most degenerative spinal changes is a phenomenon of old age. Of course, many other factors contribute to spinal degeneration. Loss of water from the fibrocartilaginous discs and articular cartilages seems to correlate with age but varies greatly among individuals. This apparent dehydration does lessen the resiliency of these structures, but they may function adequately unless subjected to excessive stress.

6.3.6 Spinal Osteoporosis

This generalized metabolic bone disorder, characterized by a reduction in the size and number of bone trabeculae, occurs in most elderly people. It may appear with debilitating illness, especially after prolonged bed rest; as a complication of adrenocortical steroid therapy; or in relation to primary ovarian deficiency or lowered estrogen levels following menopause. Vertebral body collapse and wedging of the atrophic bones are common and may appear under minimal stress.

6.3.7 History of Vascular Anomalies, Aortic Aneurysm, Prior Vascular Surgery, or Vessel Implants

As with most body tissue, blood vessels are more prone to injury from forceful adjusting when they have been weakened by some other factor's, such as congenital abnormalities, trauma, physiological neglect, and often, corrective surgery. Although surgery alleviates the immediate medical problem, it may render the organ or structure more vulnerable to damage. For example, a side-lying, lumbar-roll rotary adjustment should not be used on a patient with a calcified abdominal aorta or a surgically implanted vessel section.

The cervical region of the spine contains the vertebral arteries that supply the brain with blood. These arteries are uniquely vulnerable to injury from rotary adjustments, a problem that will be covered fully in the next section.

6.3.8 Medical Evidence of a Filling Defect after Myelography

Many medical diagnosticians believe that because it is not a risk-proof procedure, myelography should be reserved for patients with symptoms of cord compression or persistent nerve-root irritation not relieved by comprehensive, conservative therapy. Reliability is also at issue: a defect in the columns of radioopaque material does not always indicate a lesion. The head and neck position during myelography can cause blockage of the subarachnoid space that might be interpreted as a lesion. Furthermore, osteophytic spurs may produce a defect in the contrast media injected into the subarachnoid space that cannot be distinguished from displaced-disc substance. The myelography results must be intelligently correlated with clinical findings for an accurate diagnosis. To treat a patient diagnosed with a myelogram as having a filling defect, the chiropractor must carefully examine the history and proceed with caution.

6.3.9 Pregnancy

Generally speaking, when all clinical precautions have been taken, women with uncomplicated pregnancies can be adjusted from day of conception up to and including day of delivery. Before treatment, such patients should be questioned thoroughly about any special gynecological problems that might cause them to miscarry. Adjusting of the lumbar spine should be restricted to light-force or isometric-stretching techniques.

6.3.10 Neurosis—Periods of Unusual Anxiety

His emotional state greatly influences a patient's attitude toward his condition and treatment. The chiropractor must continually gauge the patient's moods, and should be cautious about adjusting the spine when he is extremely tense.

6.3.11 Significant Patient Resistance to Adjusting and Complaint of Pain

Except when the patient is anesthetized, the adjustor usually expects some psychosomatic resistance to his adjusting. It is not legal for chiropractors to administer anesthesia; massage, traction, heat and cold therapy, and soothing words are appropriate. If attempts to put a patient at ease fail, the adjustor should stop treatment. Treatment should also cease if the patient is in pain; the adjustor may use conservative measures until the patient is relaxed and joint healing takes place.

6.3.13 Adjusting for Systemic Metabolic Conditions

The chiropractor as a licensed primary care provider owes his patient the implied consent that he will administer only proven, established therapies for properly diagnosed conditions. If the chiropractor intends to use unproven, experimental procedures, the patient must be consulted. The practitioner's conviction that a certain procedure is sound does not justify his submitting it to his patients as a cure. Continual and persistent spinal adjusting used to treat such conditions as ulcers, heart disease, lung problems, genito-urinary disorders, various infections, and other systemic conditions, is improper and a waste of the patients' time and money.

6.4 Vertebral Arteries: Origin, Course, Vulnerability during Cervical Spinal Adjusting

6.4.1 Origins and Course of Vertebral Arteries

The vertebral artery, a main supplier of blood to the posterior half of the brain and the spinal cord, is the first branch of the subclavian trunk from the aortic arch. It reaches the transverse foramen of the sixth cervical vertebra by passing upwards and backwards between the scalenus muscle and the lateral border of the longus colli muscle. The transverse foramina of the upper six cervical vertebrae, formed by the two roots of the transverse processes, form a highly protective, interrupted canal that contains the vertebral artery, vertebral vein, sympathetic plexus, and cervical nerves. As it passes upward, it lies directly anteriorly to the trunks of the cervical nerves and medially to the intertransverse muscles. At the level of the atlas or first cervical vertebra it makes a detour, as the transverse foramina of the atlas are located laterally to those of the axis.

This forces the artery to make an arc with lateral convexity. Then after passing through the transverse foramen of the atlas, it turns sharply backwards, and with lateral convexity describes another arc between the transverse foramen of the atlas and the foramen magnum of the occipital bone. It then lies in the groove on the upper surface of the posterior arch of the atlas. The artery enters the vertebral canal, runs upward through the foramen magnum into the cranial cavity, there pierces the arachnoid membrane, and passes to the lower border of the pons to unite with a twin artery from the opposite side, forming the basilar artery.

At each intervertebral foramen, each artery has spinal branches to supply the ligaments, dura, bones, and branches to communicate with the posterior spinal arteries. At the level of the foramen magnum, a branch from each vertebral artery forms the anterior spinal arteries, which descend on the anterior surface of the spinal cord.

Many investigations have proven the vulnerability of the last two inches of the artery, during and after passage through the transverse processes of the second vertebra, and as it enters the foramen magnum. Vertebral angiography has shown that during head movement in extension with rotation to one side and lateral bending to the other, the circulation is arrested. In a normal subject, transitory interruption of the circulation does not pose a problem, as blood supply is maintained by the artery on the opposite side; however, the situation can be quite different if these arteries are sclerotic, or if the diameter of the opposite artery is considerably reduced by anatomic variations or frequent postural changes, such as sudden rotary head movements. Sudden head rotation stretches the artery, which can cause pain. Other conditions can arise when the artery and nerves are disturbed; for example, Barre'-Lie'ou syndrome (page 000). Compression of the arteries is not unusual in a hyperextended-rotation position; consequent compression of the related nerves is more marked if sclerosis is present or if there are spur formations at the lateral most margins of the lateral interbody joints.

Spur formation occurs quite gradually, and the arteries may escape complete compression except during certain position changes of the head and neck. Even a momentary deformation of the cervical spine may result in compression or stretching of these important structures. For example, forceful movements of the joints beyond their usual range may produce subluxations with residual segmental arthrosis causing compression at more than one level. Irritation from trauma causing vasoconstriction may persist and result in permanent narrowing and complete constriction. Symptoms of vascular insufficiency of the spinal cord and posterior portion of the brain are not unusual following trauma to the neck, and damage to the intima may give rise to sclerotic changes within the arteries causing luminal narrowing.

With trauma of the cervical spine, the vertebral veins may also be injured, but numerous plexuses reduce the severity of potential damage. Injury to the veins between the transverse foramina of the sixth cervical vertebra and the innominate veins may cause serious venous congestion.

6.4.2 The Role of Adjustment in Vascular Trauma

All vertebro-basilar artery tragedies do not occur in doctors' offices. One dramatic case⁵ involved a bacteriologist and his wife. The young man observed his wife holding her head with both hands and rotating it from left to right. She explained that she was experiencing some neck stiffness and that these movements were helping to relieve it. The husband then said that his neck was also stiff and asked his wife to twist his head in the same manner. She clasped his neck, began to rotate his head—and he died suddenly from a thrombosis of the vertebral artery.⁵

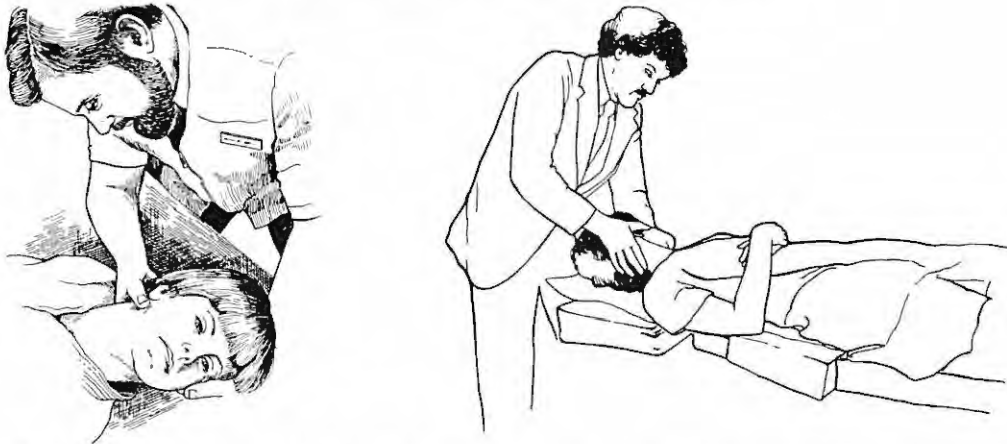
Most cervical-spine adjustive techniques have been implicated at one time or another in vascular accidents related to strokes.

Drs. Bruce R. Krueger, department of neurology, and Haruo Okazaki, department of pathology and anatomy of the Mayo Clinic,⁶ studied ten cases of vascular trauma following chiropractic cervical adjustments. The case prompting their review concerned the death of a previously healthy 25-year-old male following a supine rotary cervical adjustment. (This author was an expert witness in that case, which will be reviewed in detail later.) Their study leaves no doubt that rotation with hyperextension of the cervical spine causes severe pinching and narrowing of the vertebral artery at the atlantooccipital level contralateral to head rotation. In one case they present postmortem angiograms showing bilateral vertebral artery filling defects and occlusions. Numerous other studies on cadavers support their findings and indicate that extension combined with rotation to 90 degrees can produce complete occlusion, most commonly at the atlantooccipital level.

SUPINE OR SITTING BILATERAL CERVICAL ROTATORY BREAK

A consistently dangerous, often lethal technique is abrupt lateral flexion and hyperextension of the cervical spine. This maneuver has already been described under cervical adjusting methods. The following sketches offer a graphic illustration of how damage to the arteries can occur. In the author's opinion, a semi-rotary adjustment in the *prone* position does not create a severe, pinching occlusion of the arteries in the occipital atlas axis region.

Pinching—Occlusion of vertebral arteries by hyperextension with rotation.



In light of the accumulated evidence of its dangerous effects, the continued use of this adjustive maneuver constitutes blatant malpractice and cruel disregard for patients.

The authors postulated that trauma induced by adjustment may cause a quiescent vertebral artery thrombosis to dislodge. They left for settlement by individual case the questions of whether the adjustments were performed in a hazardous manner with excessive force and motion, and of the major cause of the subsequent strokes. They leave no doubt, however, that in each case adjustment was a significant factor:

Previous case reports of vertebral-basilar system infarction following chiropractic cervical manipulation have emphasized the role of predisposing factors such as cervical spondylosis, atherosclerosis, and congenital asymmetry of the posterior circulation. Ten patients without prior neurological symptoms had vertebral-basilar system infarction promptly after chiropractic maneuvers. One patient, who was free of clinical and radiographic evidence of predisposing factors, subsequently died. Autopsy studies revealed massive nonhemorrhagic brainstem infarction due to bilateral vertebral artery thrombosis. Nine patients survived with residual neurologic deficits due to lesions in various locations of the posterior circulation . . . Although a causal relationship may be difficult to establish in individual cases, cervical manipulation seems to be the major identifiable factor in the pathogenesis of stroke in some patients.⁷

According to an article in the *Journal of the American Medical Association*:

Chiropractic cervical manipulation may include abrupt, forceful rotational movements of the neck with the head hyperextended or neutral. Slower, more deliberate hyperextension and rotation with flexion-extension have also been described. All of these efforts may result in serious vascular compromise in both normal subjects and persons with particular vulnerability such as, atherosclerosis or degenerative osteoarthritis.⁸

6.4.3 Testing and Warning Signs for Patients Prone to Vascular Trauma

The fact that cervical adjusting somehow figures in vascular trauma and stroke reinforces the chiropractic imperative of obtaining a careful medical history, radiological studies, and orthopedic and neurological tests before attempting any adjustment. (These tests are outlined in Chapter 8, Elements of a Standard Chiropractic Work-Up.) In addition, the chiropractor should always check before manipulative therapy for any of the following signs, which may indicate vascular anomalies or pathologies of the neck region or upper extremities:

- Blood pressure lower in one arm than the other by more than 10 mm hg
- A lower radial pulse on one side
- Listening for a bruit over the supraclavicular fossa (possible anomaly, stenosis, or occlusion of subclavian artery)
- Palpation of left and right carotid bifurcation to determine quality of pulsations; listening for a bruit at the same location

Another requisite test is performed to evaluate the integrity and function of the vertebral arteries supplying blood to the brain. When a person turns his head to one side, the opposite vertebral artery is normally compromised. This transient effect is usually harmless unless there is a vascular anomaly that disrupts normal blood flow. (In workers who must maintain their heads in extension and lateral bending, Wallenberg's syndrome is sometimes evident.) However, a patient for whom turning or bending the head produces nausea or other adverse symptoms is no candidate for a forceful cervical adjustment. The test is to hold the head of the patient in a position of lateral bending and extension for several seconds. If the patient complains of vertigo, nausea, dizziness, visual blurring, or faintness, or if he exhibits any nystagmus, adjustment should not be performed.

If a vascular pathology or anomaly is suspected, forceful adjustments must not be done and the patient must immediately be referred to his general medical physician or to a specialist in vascular problems. As Krueger and Okazaki state:

. . . it seems prudent not to disturb an artery that is undergoing pathologic changes, regardless of the nature of the arterial lesion. For this reason therapists should be aware of the symptoms of ischemia and make efforts to elicit such history from patients before, during, and after mechanotherapy.⁹

Besides admitting for adjustive therapy patients with a history or symptoms suggesting vascular problems, one of the worst decisions a chiropractor can make is to continue adjusting despite signs of vascular damage or impending stroke. It is common for the stroke candidate to experience sudden occipital pain, dizziness, slurring speech, lack of coordination, and vomiting. Any or all of these symptoms may occur immediately or some time after a cervical rotary adjustment, as a result of vascular damage. The chiropractor who misinterprets these signs or who for some other reason continues adjusting sets up his patient for severe disability or death, and himself for calamitous legal and ethical repercussions.

6.4.4 Reducing the Incidence of Vascular Trauma

To reduce the incidence of vascular trauma for chiropractic patients, contemporary professional newsletters recommend stringent screening procedures, reevaluation of adjusting techniques, refinement of maneuvers, appropriate application of special techniques for particular conditions, and selective rather than general use of cervical adjustments. To the author, the solution is simpler. In this writer's opinion, the realignment of cervical vertebrae that some chiropractors claim is accomplished by rotary adjustments in the supine and seated positions could be more safely produced by prone-extension cervical adjusting or by non-forceful reflex techniques. Adjustments in this position should be made illegal for everyone except

neurosurgeons, who sometimes must so rearrange tissue after major trauma. In testimony before the New Zealand Inquiry Into Chiropractic in 1978, radiologist John Boyd Wilson, M.D., outlines the rationale for this point of view under the questioning of a Mr. Craddock an attorney representing the New Zealand Chiropractic Association:

Wilson: The point I am making if I may do so is that the great bulk of patients who attend chiropractors do so for relatively minor disorders and to bring the point home I mention the subject of migraine. It was better to have 1000 patients in this country putting up with their migraine without going through the process of cervical manipulation—rather than have one patient paraplegic, or close to it as a result of a poorly performed and ill-advised manipulation of the cervical spine . . .

Craddock: Is this sort of thought at the base of your dislike of manipulative therapy as a procedure?

Wilson: It is one of them. It is a point which is made by Dr. Gordon Parker's¹⁰ paper which deals with migraine and its treatment by manipulation, whether medical or chiropractic.

Craddock: Very well. Perhaps we should enquire about whether you agree that there are elements of risk in most procedures that are manipulative or surgical?

Wilson: . . . Most certainly.

Craddock: And it is the degree presumably of the risk which is a major factor in determining whether a particular procedure ought to be carried out or not?

Wilson: . . . And this is well seen in the case of the mechanical risk, slight though it may be, associated with spinal manipulative therapy. The results when they are bad are disastrous and irreversible.

Craddock: Do you say that all spinal manipulative therapy should be stopped because of the risks to the patient that exist from the procedure?

Wilson: I must be frank with you. I could see no harm in following the course you suggest, none whatever.

Craddock: Do you advocate it?

Wilson: Indeed I do.¹¹

6.5 References

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TABLE 6.1
Risks and Possible Side Effects of Spinal Adjustments

	SLIGHTLY DISABLING Annoying, painful	MODERATELY DISABLING Considerably painful Some permanent residuals	SEVERELY DISABLING Extremely painful Permanently disabling Possibly fatal
Cervical Region	Muscle strain, contractions, pain, tenderness, muscle tendon, ligament, joint bruising. Aching. Joint burning. Stiffness. Temporary loss of normal range of motion.	Muscle, tendon, ligament, and joint capsule tearing or rupture. Vertebral transverse process fracture. Intervertebral disc bruising, ruptures. Beginning arthrosis.	Permanent joint damage. Arthrosis. Stroke. Vertebral artery damage. Brainstem ischemia. Frank disc rupture. Contusion. Myelopathy. Cerebellar dysfunction. Facial, upper, and lower extremity paralysis. Death.
Thoracic Region	Muscle strain, contractions, pain, tenderness. Muscle tendon, ligament, joint bruising. Aching. Joint burning. Stiffness. Temporary loss of normal range of motion. Temporary dyspnea. Lateral anterior chest pain or burning. Severe aching.	Muscle, tendon, ligament, and joint capsule tearing or rupture. Vertebral transverse process fracture. Intervertebral disc bruising, ruptures. Beginning arthrosis. Temporary dyspnea. Lateral anterior chest pain or burning. Severe aching. Sternal cartilage tearing. Rib fracture.	Permanent joint damage. Arthrosis. Frank disc rupture. Stroke. Vertebral artery damage. Spinal cord damage. Myelopathy. Rib fracture. Fragment displacement. Cardiac pulmonary shock. Cardiac arrest. Death.
Lumbar Region	Muscle strain, contractions, pain, tenderness. Muscle tendon, ligament, joint bruising. Aching. Joint burning. Stiffness. Temporary loss of normal range of motion. Temporary abdominal muscle strain. Soreness in buttocks and thighs.	Muscle, tendon, ligament, and joint capsule tearing or rupture. Vertebral transverse process fracture. Intervertebral disc bruising. Ruptures. Beginning arthrosis. Rib fracture. Temporary dyspnea. Lower lateral anterior chest pain or burning. Severe deep aching. Temporary bladder and bowel dysfunction.	Permanent joint damage. Arthrosis. Frank disc rupture. Spinal cord damage. Myelopathy. Major blood vessel rupture (aorta). Lower extremity paralysis. Death.

Chance of occurrence based on individual clinical assessment (i.e., age, general health state, spinal condition, family medical history, and congenital, developmental, and traumatic emotional predispositions)

STANDARD AND UNUSUAL CONTEMPORARY AND ANTIQUATED TECHNIQUES USED BY CHIROPRACTORS FOR DIAGNOSIS AND TREATMENT

7.1 Unusual Techniques of Diagnosis and Treatment: Past and Present

7.1.1 Albert Abrams: Gadgets and Electrical Impulses

Albert Abrams, MD (1864–1924), considered by some to have been the dean of gadget quacks, made a fortune treating patients and leasing his inventions to others. Abrams claimed that all parts of the body emit electrical impulses of different frequencies that vary with health and disease. His theory was that illness, age, sex, religion, and location could be determined by “tuning in” on the patient’s blood or his handwriting sample. Diseases could be treated by introducing proper vibrations into the body with another machine. In the 1920s, more than 3,000 practitioners, mainly chiropractors, sent dried blood specimens from patients to be tested in Abrams’s radioscope. A return postcard gave recommended dial settings with this and with other Abrams machines for treatment.

In the 1950s, the FDA investigated these businesses, arranging for blood samples to be analyzed. A report on one man diagnosed arthritis in the right foot and ankle—which had been amputated several years before. The blood of a dead man inspired a medical diagnosis of colitis, and that of a rooster brought forth a report of a sinus infection and bad teeth. The treatment machines turned out to be electrical units producing magnetism from circuits similar to those of an electric doorbell, and shortwave radio circuits like a taxicab transmitter. The foundation that promoted the diagnostic system and devices agreed to a 1954 federal court injunction to halt their activities.

7.1.2 Polarity

One pioneer who worked with B. J. Palmer used polarity to determine if the patient had a spinal subluxation. This Dr. Truscott had his patients lie on an insulated table placed so that its headpiece could

be turned west. Truscott said that the best results were obtained when the head was directed westward, and when the patient was examined out of doors, especially on a clear, sunny day. Because metallic vibrations supposedly interfered with normal body polarity, both practitioner and patient were to have no metals about their person, and the former's arms were bared to the elbows. Truscott handled fillings by placing a rubber band under the patient's chin and over the cranial crown. The patient's hands could not make contact with the floor, and no one but the chiropractor could touch the patient during spinal analysis.

Truscott theorized that the unknown force he was attempting to measure entered the body at the head and was transmitted by the skin through the body. He used light index-finger contact to determine which areas of the spine were interfering with the flow of energy from the brain to the body.

Contemporary proponents of this method of healing seek to balance what they envisage as opposite energy capacities within. As in Chinese acupuncture, adherents of polarity see two poles of energy, the Yin and the Yang male and female. They believe that when these energy fields are disrupted, disease results. Practitioners insist that they are only channels to inspire self-healing in others by telling about love and understanding, and by successfully applying their art. Besides their "laying-on-of-the-hands" approach, such chiropractors use diet and exercise in an attempt to balance the whole person, physically, intellectually. As with all systems of healing, personal rapport between healer and patient is of primary importance. Polarity therapy can be an effective means to treat functional, psychosomatic symptoms of a non-medical nature. However the patient has been diagnosed by a medical physician and monitored throughout the treatment, there is that usual danger that important symptoms are ignored or misinterpreted by both the practitioner and his believing client.

7.1.3 The Down Radiotherapeutic Instrument

Ruth Down, a Los Angeles chiropractor and a fervent imitator of Albert Abrams, created a little black box that she named the Down Radiotherapeutic Instrument. With it she analyzed bloodstains and "tuned in" to specific body organs so patients could be treated by remote control anywhere in the world. Down claimed that the only current used was the patient's own body energy, and that by tuning in on the radio frequency of the disorder, she could make the diseased cells fall away. Down had many followers who promoted her theories until her death in the 1950s. Many chiropractors employed her methods until the '60s and '70s surreptitiously; they had to be wary of possible FDA interference.

7.1.4 The Micro-Dynameter

This instrument, another magic box, was widely used by chiropractors during the 1950s and early '60s. There are some estimates of more than 5,000 being sold. Developed by a chiropractor, it was supposedly capable of diagnosing and treating virtually all diseases. The machine was actually a highly sensitive galvanometer fitted with several electrodes, which were applied to different areas of the body.

The author saw the micro-dynameter used in a chiropractic office in 1965. It had an elaborate readout chart with complex graphs that supposedly showed the weaknesses and strengths of various organs and body systems. During the 1960s, the FDA labeled the instrument a peril to public health because it could not correctly diagnose anything. There was a nationwide campaign to round up the machines and to destroy them.

7.1.5 The Diapulse Device

Promoted as an effective means of administering diathermy or deep heat treatments, this machine was found by the FDA to produce an amount of heat inadequate for therapeutic effectiveness. Since 1972, the agency has confiscated Diapulse Devices.

7.1.6 Low-Powered Cold Laser Devices

This red laser beam, which the patient cannot feel, is aimed at toothaches, acne sores, fractures, inflamed tonsils, and arthritic joints, as well as at reflex points in various parts of the body. It is a relatively new device used by chiropractors across the United States. No one as yet has denounced it as harmful, but medical scientists and the FDA have expressed doubts about user claims that it stimulates the regenerative power of body tissues. There is no known medical research in progress to assess its efficacy in diagnosis or treatment.

7.1.7 Acupuncture

Chiropractors have long used this ancient form of Chinese pain control. Acupuncture consists of stimulating specific skin points with needles, finger pressure, or low-voltage stimulation (in many states, breaking the skin is illegal). These special points are theoretically found where imaginary horizontal and vertical lines called *meridians* meet on the surface of the body. The points are said to represent various internal organs that can be influenced by stimulation of their corresponding point on the skin. This ancient Chinese medical treatment is said to balance and harmonize the Yin and Yang, which together form the life force and promote health. Classical Chinese physicians applied it to the entire range of human illness, and chiropractors have used it readily and widely. For them acupuncture is directly related to Palmer's nerve-flow theory, an extension or a refinement of vertebral adjusting to balance energy flow.

Acupuncture's effectiveness has not been scientifically verified, but there are many reports of its success in curing a wide variety of diseases and chronic pain syndromes. This may indicate that something happens when chiropractor, needle or thumb, and patient meet at the therapy table. Perhaps the stimulation temporarily alters nerve conduction with some yet undefinable change in body function and repair; or the adjuster may exercise some psychological influence on the patient.

The danger here is in treating a condition that may be dangerously progressing while the patient believes that the proper cure is arresting it. The needles, which may be up to one foot long, have been reported to collapse lungs, and puncture cardiac chambers, livers, spleens, bladders, kidneys, pregnant women's uteruses, etc. Improperly sterilized needles can transfer infectious hepatitis. Chiropractors must remember that there is no scientific evidence for acupuncture's effectiveness for anything other than experimental pain control.

7.1.8 Kinesiology

Kinesiology may be defined as the sum of what is known regarding human motion. Chiropractic kinesiology is a system of diagnostic treatment based on the notion that dysfunction of any organ is related to a specific, weak muscle. Elaborate charts like those used in acupuncture indicate skin areas considered "activating points" for body organs. Practitioners also test reactions to foods; they place a substance in the patient's mouth and then assess the strength of certain muscles by resisting the patient's voluntary contraction. Possible allergens are also tested this way.

Treatment may include proscribing some foods and environments, and changed diet, in which case the chiropractor may suggest supplemental vitamins and minerals. Preparations containing raw animal gland are often used in an attempt to stimulate organs and increase their production. For example, certain lower-body muscles are thought to be weak when the adrenal glands are underproducing due to metabolic exhaustion or lack of nerve flow. Treatment for this condition, commonly diagnosed by chiropractic kinesiologists, often includes raw animal adrenal extract, spinal adjustments, and stimulation of specific "organ points" on the skin. Positive clinical results against most medical problems are claimed by practitioners of this unproven, unscientific practice.

7.1.9 Iridiagnosis

This unorthodox technique of diagnosis was described by J. Haskel Kritzer,¹ who credits Ignatz Peczely, born January 26, 1826, in Egervar near Budapest, Hungary, for the primary discovery of how to read the “windows of the body.” As a boy, Peczely observed a white cloud in the iris of an owl’s eye. The bird had broken its leg. When the leg healed, the cloud was replaced by a black speck circumscribed by white lines. Later, as a physician, Peczely was treating a man’s fractured leg when he noted a curious spot in the patient’s iris similar to what he had seen in the bird’s. According to Kritzer, Peczely subsequently discovered definite areas in the iris of the eye that corresponded to the organs of the body. Later, Peczely published his chart, a complex drawing of the iris depicting points theorized to correspond to various organs and body systems. Iridiagnosis was introduced in the United States in 1904 by Henry E. Lahn, M.D., and was quickly adopted by chiropractors. Elaborate diagnosis and unusual treatment programs are based on this fascinating but unscientific theory. Some systemic disorders are manifested in the eye, but these are best interpreted by a medically trained internist or ophthalmologist.

7.1.10 Chelation Therapy (Chemo-Endarterectomy Therapy)

Chelation therapy involves the injection of disodium edetate or EDTA into the bloodstream, after which, according to its promoters, it is supposed to remove mineral deposits from various parts of the body to be excreted via the kidneys. A variation practiced by chiropractors in some states is to prescribe oral vitamin and mineral supplements. This internal cleansing program is used for a wide variety of chronic conditions, such as kidney problems, heart disease, arthritis, Parkinson’s disease, emphysema, multiple sclerosis, and gangrene. Many patients have reported positive results, but controlled studies are lacking, and there are indications that chelation therapy can result in kidney failure and death.

7.1.11 Raw Glandular Therapy (Cellular Therapy)

In the chiropractic application of this intriguing natural therapy, animal tissues chosen to correspond to ailing human organs are prepared for intravenous injection or oral administration. For a malfunctioning pancreas, raw pancreas substance from an animal is given; for a weak heart, raw animal heart tissue. This method seems to be patterned on ancient practices and the primitive idea that eating animal organs strengthens or rejuvenates the human body.

Injections of raw animal tissue can elicit allergic reactions and some unsterile preparations have caused serious systemic infections. When they are taken by mouth, the preparations are digested like other foods of similar composition and are usually harmless; however, if a treatable medical condition exists and the patient is led to believe that this therapy alone suffices, complications can arise from delayed medical intervention.

7.1.12 Homeopathy

This system of therapeutics, founded by Samuel Hahnemann (1755–1843), is based on treating diseases by administering minute doses of drugs that would in healthy persons produce symptoms resembling those of the disease being treated. Its advocates say that homeopathy is a time-proven science based on the law of similarity, i.e., like cures like. They say that homeopathic substances have no dangerous side effects and that the drugs are efficacious against a wide range of human diseases.

In a recent mailing to the author’s office, a wholesaler listed 24 different homeopathic formulas available in one-ounce liquid form as remedies for many common health problems:

HERPES, ACNE, eczema, rashes, dry skin, psoriasis, ringworm, pimples
KIDNEY AND BLADDER PROBLEMS, stones, cysts, enuresis, dysuria, lower-back pain
DIABETES, HYPOGLYCEMIA, PANCREATIC PROBLEMS, pernicious anemia
ARTERIOSCLEROSIS, CIRCULATORY PROBLEMS, hypertonia
LUNG CONDITIONS, MUCOUS, chronic diseases of lungs, weariness, pains and weakness of scapulae
DIFFICULT CHILDBIRTH, for difficulties of childbirth, retained placenta
EYES, eye disorders and irritations²

Chiropractors in some states delve into homeopathy as a sideline to spinal care, and some of these practitioners stock formulas at wholesale to sell them at retail to their clients.

7.1.13 Prescriptive Dietary Therapeutics and Weight-Control Programs

Prescribing a specific diet for a particular condition is generally considered the practice of medicine. Chiropractic liberals, however, dabble in diets for conditions such as obesity, diabetes, ulcers, heart disease, and intestinal problems. They argue that this is a natural part of their program for balancing the nervous system. Usually, if nothing goes wrong, practice of this type slips by unnoticed for what it is: an illegal act. Food prescribed for a specific medical condition becomes a prescribed medicine.

Since the time of D. D. Palmer, chiropractors have concocted, brewed, grown, prescribed, and sold a plethora of metabolic dietary supplements made from a wide variety of natural elements. They have used many plants and animals, as well as seawater. If these prescriptions are offered in a clinical setting in conjunction with other therapies, they may act as a powerful placebo. They should never be pressed upon a patient whose condition requires medical drug treatment.

Mega-Vitamin Therapy (Orthomolecular Therapy)

Orthomolecular therapy, which began with psychiatrists prescribing massive doses of nutrients while treating severe mental problems, now includes several other medical approaches such as drug and hormone treatment. Chiropractic literature details combined regimes of spinal adjustment, massive doses of B-complex vitamins, and chiropractic mental health counseling for schizophrenia and other emotional disorders. Scientists who have reviewed therapeutic claims for such programs agree that this approach to serious emotional disorders is ineffective and may be harmful.

7.1.15 Holistic Healing (Holistic and/or Wholistic Medicine)

Hippocrates would be proud of modern physicians' attempts to understand their patients as whole beings. He would agree with holistic healers about their desire to view the patient's problems in relation to his personality and his entire emotional, physical, intellectual, social, and spiritual nature. Holistic or total healing works for medical practitioners, and the philosophy is helpful for chiropractors in screening patients who may need spinal care. Unfortunately, in many instances, chiropractors construe the tenets of holistic theory to mean the acceptance and treatment of nearly all medical symptoms—without the necessary scientific, academic, or technical training. Thus they commit malpractice; they are unethically and illegally practicing medicine.

7.1.16 Naturopathy

Naturopathy is defined as a drug-less system of therapy that uses *natural* substances and physical forces—air, light, water, heat, massage, etc.—as opposed to other practices such as medicine and surgery

that are considered *unnatural*. Some of the early chiropractic schools were associated with unorthodox medical graduates who started schools of natural healing. This combination of Palmer's spinal-adjusting teachings and other natural healing methods has persisted to the present day. Until the 1930s and early '40s, chiropractic graduates from liberal schools could qualify for both the D.C. and the N.D. (Doctor of Naturopathy) by taking courses in natural healing. There are perhaps hundreds of practicing D.C.s who hold both degrees and offer a modified form of natural medicine in states that permit it.

7.1.17 Herbology (Herbalism)

An herb is a plant that has a fleshy stem as opposed to woody tissue of shrubs and trees. These aromatic plants are employed in seasoning and medicine. Herbology involves the use of hundreds of these substances for the treatment of human ailments, with many of the proposed remedies based on folklore and ritual rather than science. Many herbal remedies are innocuous; others can be toxic. As with any substance, whether it be tap water or a complex chemical, if it is transferred by unspoken contract from a licensed healer to a patient to treat a specific condition, it becomes a medicine. The prescribing chiropractor thus assumes the legal burdens of a medical physician.

7.1.18 Reflexology

Proponents of this system claim that applying pressure to specific points on the hands and feet will relieve a wide range of symptoms, and cure diseases in organs and glands sometimes far removed from the areas of stimulation. As in acupuncture, teachers of reflexology use charts that label certain areas of the skin of the hands and feet as "kidney place," "heart place," "pituitary place," etc.

7.1.19 Endo-Nasal Therapy (ENT)

People who suffer from conditions like sinusitis, which are common, chronic, and often not relieved by orthodox medicine, are easy prey to all sorts of dubious procedures. Combined with psychological needs and psychosomatic factors, this gives practitioners of orthodox and unorthodox methods a multitude of willing recipients. Some ENT techniques entail stimulating specific points inside the nose or mouth. Others involve the placement of balloons within the frontal sinuses that are suddenly inflated to adjust the offending bones to a position that would supposedly allow for normal sinus drainage and free breathing.

7.1.20 Reflex Diagnostic Techniques Utilizing Body Magnetism

Magnets, pendulums, reactions to certain food substances, and visual readings of the body's "aura" have been used throughout chiropractic history as signs of the inner condition and to determine a therapeutic approach. Such subjective attempts at diagnosis are basically efforts to communicate subconsciously with the patient and to receive information via specific sensory and motor responses. These questionable, unproven procedures are vigorously defended by their proponents. As with other unproven methods, their danger arises when the patient accepts the results as a valid appraisal of his condition.

7.1.21 Spectro-Analysis—Hair Sample

In this lucrative but dubious procedure, a hair sample is sent to a laboratory for microscopic photography or spectro-analysis to determine whether metabolic diseases and nutritional deficiencies exist. Hair composition is affected by genetics, age, and sex, and greatly by external factors such as soap, sun, air particles, and hair sprays. Hair analysis is a valuable medical tool for diagnosing poisoning by heavy metals, such as lead and mercury, but its use to determine potential allergies, nutritional requirements, etc., is not supported by scientific evidence.

7.1.22 Contour Analysis

Contour analysis, formerly known as Moire photography, is used by some chiropractors to detect postural abnormalities. Two sets of lines are projected onto the patient's back, creating a pattern. If the pattern is symmetrical, proponents say, the back is straight. If the lines on one side present a different contour from that of the opposite side, the muscles are thought to be unequally contracted or mal-developed. Therapy is then instituted until a symmetrical picture is obtained.

On close analysis, however, a contour image is really nothing more than a recorded shadow of muscle topography. The reading can be altered by a slight shift in body position during examination. This diagnostic aid can be impressive for a patient but can hardly be classified as of proven value.

7.1.23 Minor Surgery

Chiropractic history books tell some wild tales about early procedures. One common practice was the plucking of swollen tonsils with a spoon from brave (or foolish) volunteers. Adenoids or pharyngeal tonsils were often removed with the flick of a finger. Practitioners of "kitchen surgery" characterized their irresponsible, dangerous actions as natural surgery performed non-medically to assist the patient without drugs and scalpels.

7.1.24 Bloodless Surgery

Major Bertrand De Jarnette gives his interpretation of bloodless surgery:

In the practice of bloodless surgery we do not operate on one case for appendicitis, another for cholelithiasis, and another for prostate trouble. Rather, we consider the human organism as a whole, believing that when one portion of this organism expresses pain denoting trouble, that this pain is merely the manifestation of a systemic derangement rather than a specific involvement. . . . Each bloodless surgery procedure is what may be rated a general operation. The object in this operation is to restore normal position to all tissues so that normal position may encourage normal function and health.³

De Jarnette, a chiropractor, continues:

Bloodless surgery, unlike incisive surgery, does not remove viscera, nor does it sever tissues. Bloodless surgery seeks to return viscera to normal position, remove pressure from impinged structures, free nerves and blood vessels, restore normal lymph channels, and by so doing encourages normal circulation, elimination, secretion and excretion. . . .⁴

According to De Jarnette, who may have learned these procedures from osteopaths, the basic cause of disease is a distortion or misalignment of osseous and soft tissues. The theory permitted treatment of all organs. With charted reflex zones, tuning forks, a stethoscope, and fingertips, adhesions were identified and realigned. The author infused the procedure with a certain mystical quality: ". . . you must feel through and visualize the conditions that exist within."⁵

De Jarnette further states that each bloodless surgery procedure could be considered a general operation because local pain and dysfunction were supposedly mere manifestations of a systemic derangement rather than local, specific problems. The normal positioning of internal structures was the primary goal of this therapy, which also included spinal manipulation and nearly every aspect of naturopathic practice. For example, cataracts were treated by a regimen of correcting general visceroptosis and total spinal imbalance, colonic irrigations, heavy intake of water, vegetable juices, and lactose and dextrin

products, vitamin C, direct digital manipulation and percussion of the eyeball, application of a vacuum cup (like that used for a breast pump), administration of negative galvanism, daily five-minute sessions of combined orange and green filters projected onto the affected eye, yellow sunglasses, eye exercises, and reflex techniques to relax body tension.

A chiropractor well versed in the De Jarnette method recently told me that bloodless surgery is still practiced today as whole-body reflex therapy.

7.2 Specialized Auxiliary Adjustive Techniques

7.2.1 Extremity Adjusting

Since D. D. Palmer learned skeletal adjusting techniques from Andrew Still, the founder of osteopathy, most chiropractic schools have taught various maneuvers for resetting the 300 articulations of the skeleton. Alternately denounced and praised by many conservative practitioners, extremity adjusting remains a legal, generally accepted part of usual chiropractic services in most states. Conservatives who employ these maneuvers remind critics that Palmer himself advocated adjusting all articulations, not just those of the spine.

Liberals supplement joint adjusting with electrotherapy, supportive casts, straps, bandages, hydrotherapy, and rehabilitative exercises to enhance their curative regimen for joint strains, sprains, and subluxations.

There is much debate among clinicians as to whether shoulder, elbow, wrist, hand, knee, ankle, and foot joints can actually subluxate without significant joint tearing requiring surgical repair. There are, however, sufficient reports of increased joint functional following adjustments to warrant continued application of this conservative approach.

There are always dangers when force is applied to an already traumatized joint. With continued manipulation a joint that has lost some of its resisting ability can be further damaged, resulting in permanent adhesions, scarring, increased pain, and further loss of function. The most serious acute cases of extremity-joint trauma are treated by orthopedic surgeons. The chronic, lingering joint “locks” are what usually reach the physical therapist or chiropractor.

Usually extremity adjusting is either helpful or harmless, but this author has reviewed two cases involving torn knee cartilages from repeated chiropractic adjusting. In both surgery was required to repair the damage. According to the case histories neither patient should have undergone manipulation; rest and immobilization followed by gradual isometric and isotonic rehabilitation exercises were indicated.

7.2.2 Massage and Trigger-Point Therapy

Manual or instrument pressure over muscle spasms and small abnormal foci of pain, or trigger points, is often used to dissipate myofascial nerve irritation that is thought to cause local and referred pain. The term *trigger point* is derived from the fact that if one stimulates nerve endings at one point, the trigger, something will happen at another, perhaps distant location.

A trigger point in a muscle feels like a knot. When pressure is applied, the patient’s pain usually increases. Pressure directly over the point is the most effective method of relieving the local spasm, but water, heat, ice, vapo-coolant sprays, vibratory and other electronic devices, and general massage are often used.

Massage, the most effective method, is known to improve general circulation, induce relaxation, facilitate the removal of certain waste accumulations produced by exercise, such as lactic acid, and serve as light exercise for a patient who is unable to move a specific area. Extreme care must be taken not to massage an injured area too vigorously, although at times heavy pressure may dramatically relieve localized pain. Deep massage should never be applied to varicose veins, severe bruises, infections, swelling, skin disorders, damaged tendons, and ligaments or fractures. Excessive or careless pressure can tear injured soft tissue, aggravate bruises, intensify infections or retard the normal healing of fractures.

7.2.3 Cranial Adjusting

The detection and attempted correction of skull distortions has always been a part—albeit of questionable merit—of chiropractic. Compressions, depressions, bulges, locks, and actual separations of skull articulations have been described in detail. Some are thought to be so slight that they must be measured with calipers, while others are noted to be severe enough that even a layman could readily point them out. Leo L. Spears, D.C., a Palmer graduate, was an advocate of skull molding. In his *Spears Painless System of Chiropractic*, he lists four causes of skull distortions: instrument delivery; an infant's sleeping in one position; abnormalities of the maternal pelvis; and drugs that hasten delivery. Correction is supposed to relieve pressure on the brain, improve blood circulation, and allow individual brain cells to resume normal growth.

The chiropractor places both hands over opposite contact points on the skull, alternating pressure and relaxation. Since Palmer's time, chiropractic literature has reported results for a wide variety of conditions associated with central nervous system malfunctioning in children and adults. Members of the scientific medical community have vehemently disputed these anecdotal claims. This has not, however, prevented a segment of the profession from continuing to teach and practice the procedures.

In reality, the technique probably has no effect on adults, but for children could be a painful, inadequate substitute for proper and necessary medical care. It is not widely used; there seems to be no reliable reference in contemporary chiropractic literature that accepts skull molding or adjusting as standard practice. Only one case is reviewed, in which cranial adjusting was administered to relieve the effects of congenital muscular dystrophy in a nine-year-old girl.

7.2.4 Adjustment for Temporomandibular Syndrome

Jaw-joint adjustment has become popular for thousands who experience common occlusal problems. Some liberals prescribe a mouthpiece to be worn after adjustments to maintain correction and ease biting problems. There is some difficulty in understanding how this powerful joint can slip in and out of alignment without tearing the joint capsule, but as with many techniques, many patients report relief after repeated corrections.

7.2.5 Instrument Adjusting

Medieval medical history describes attempts at correcting spinal deviations with hammer and mallet. Drawings from the Middle Ages depict people in traction on a rack receiving spinal thumps with these tools. This may have inspired those early chiropractors who despite denunciations from D. D. Palmer, espoused hammer-and-mallet adjustments as less laborious than these done by hand.

Chiropractors are continually seeking an easier way to realign vertebrae than by hand. Properly applied, instrument adjusting is considered part of standard chiropractic spinal correction. A wide variety of spring-loaded, air-driven, and hydraulic-powered machines have been developed and peddled by entrepreneurs who understand how fatiguing daily manual adjusting is for a busy practitioner.

Some machines resembling drill presses have been designed to adjust only the atlas-axis vertebrae. This is an attempt to duplicate the toggle-recoil adjustment touted by B. J. Palmer as the only procedure necessary to clear the entire spine of subluxations. Most such machines are no more dangerous than manual adjusting. The author had the opportunity as an intern to observe an adjusting machine, developed by an engineer and Palmer College graduate, in action. This writer shivered a little each time he viewed its air-driven plunger driving into the tissue of the cervical spine.

There are many variations on the market, but most of them are similar in design, with a spring-loaded stylus that delivers a rapid thrust over the chosen vertebra. Earlier hand-held models called adjusting guns have mostly been discarded as too unstable to deliver a consistently measurable force. The most popular mechanical-adjusting device is the Lee Activator Instrument, patterned after a dental extractor, discussed elsewhere in this chapter.

7.3 Popular Contemporary Techniques

The following information has been gleaned from promotional publications, personal conversations with proponents, postgraduate seminars, class notes, and a review of chiropractic literature. The descriptions are the author's and are not offered as an opinion on or judgment of the efficacy of any particular technique. The addresses of the principals have been provided for those seeking further explanation.

7.3.1 The Logan Basic Technique

The Logan Basic Technique is a full spine adjusting method based on the premise that the body of the lowest freely movable vertebra will rotate to the low side of the sacrum, the foundation on which the spine rests. This maneuver was devised in 1919 by Hugh B. Logan (deceased), a Palmer graduate. Logan used light contact over the sacrum in an attempt to activate the muscles of the spine and prod vertebral movement toward normal. An important factor in this technique is the direction of the force employed relative to particular muscles to affect spinal balance. It calls for heel and ischial lifts to maintain accomplished corrections.

Logan College of Chiropractic
430 Schoettler Rd., Box 1000
Chesterfield, MO 63017

7.3.2 The Activator Method

The Activator Method, founded by two practicing chiropractors named W. C. Lee and A. W. Fuhr, is described in their brochure as a light, non-forceful, specific method of spinal adjusting:

Activator Methods is the technique co-developed by Dr. W. C. Lee and Dr. A. W. Fuhr of the Lee-Fuhr-Chiropractic Clinic of Redwood Falls, Minnesota. This is the method that teaches where, when, but more important, when not to adjust the spine. Activator Methods is an all new concept in light force adjusting, which utilizes a small hand held adjusting instrument which has been designed to accurately deliver the proper force necessary to reduce subluxations without undue strain to the doctor or unnecessary pain to the patient. In our seminar we teach a complete course in body mechanics to show the doctor where, when, but more important, when not to adjust the patient.⁷

This technique includes a specific leg test to indicate to the practitioner if the subluxation exists mainly in the lumbo-sacral area of the spine or in the upper, cervical region.



Adjustment of the hip.

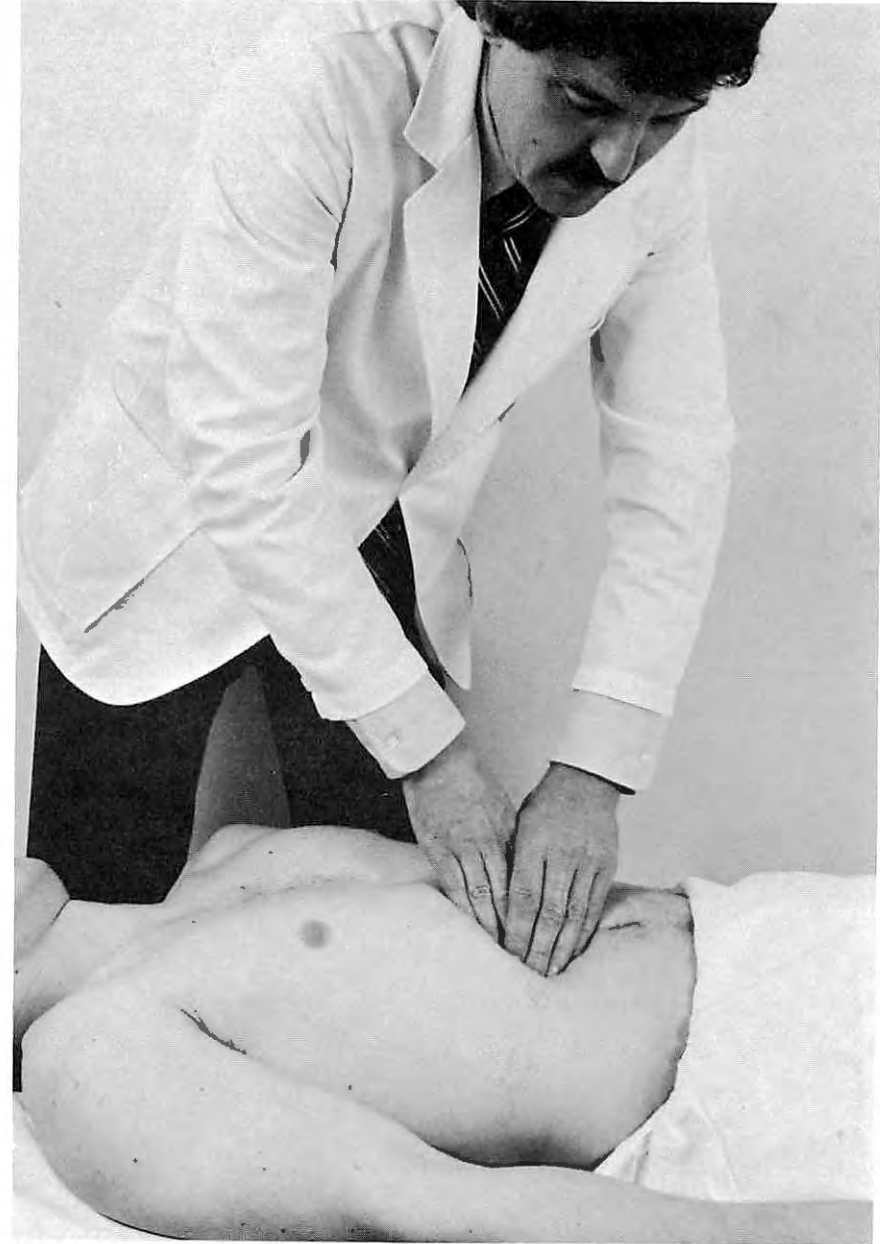


Bloodless surgery for an intestinal condition.

Figure 7.1



Adjustment of the elbow.



Bloodless surgery for a gallbladder condition.

Figure 7.2



Figure 7.3
Adjustment of the wrist.

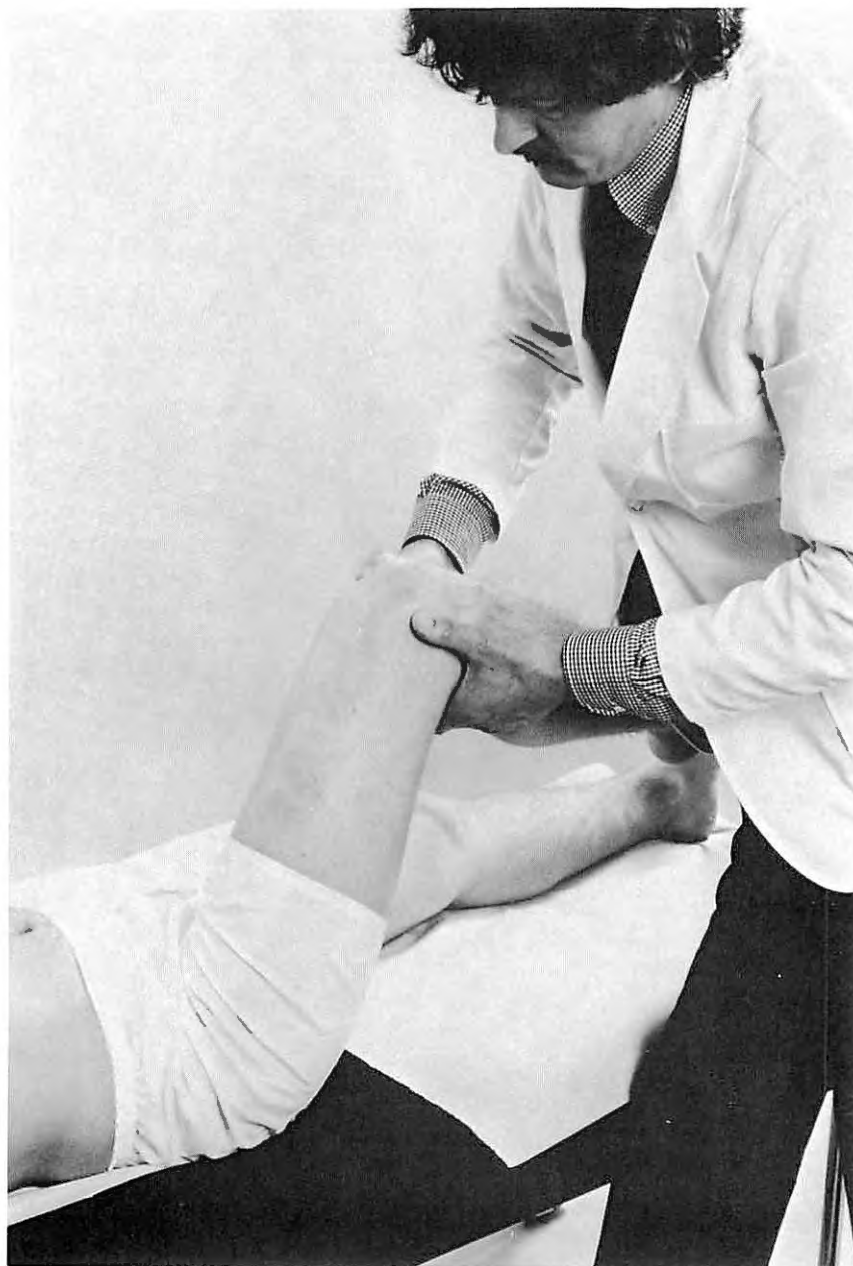


Figure 7.4
Adjustment of the knee joint.



Figure 7.5
Adjustment of the bones of the foot



Figure 7.6
Administration of (G-5) massage therapy by a chiropractic assistant.

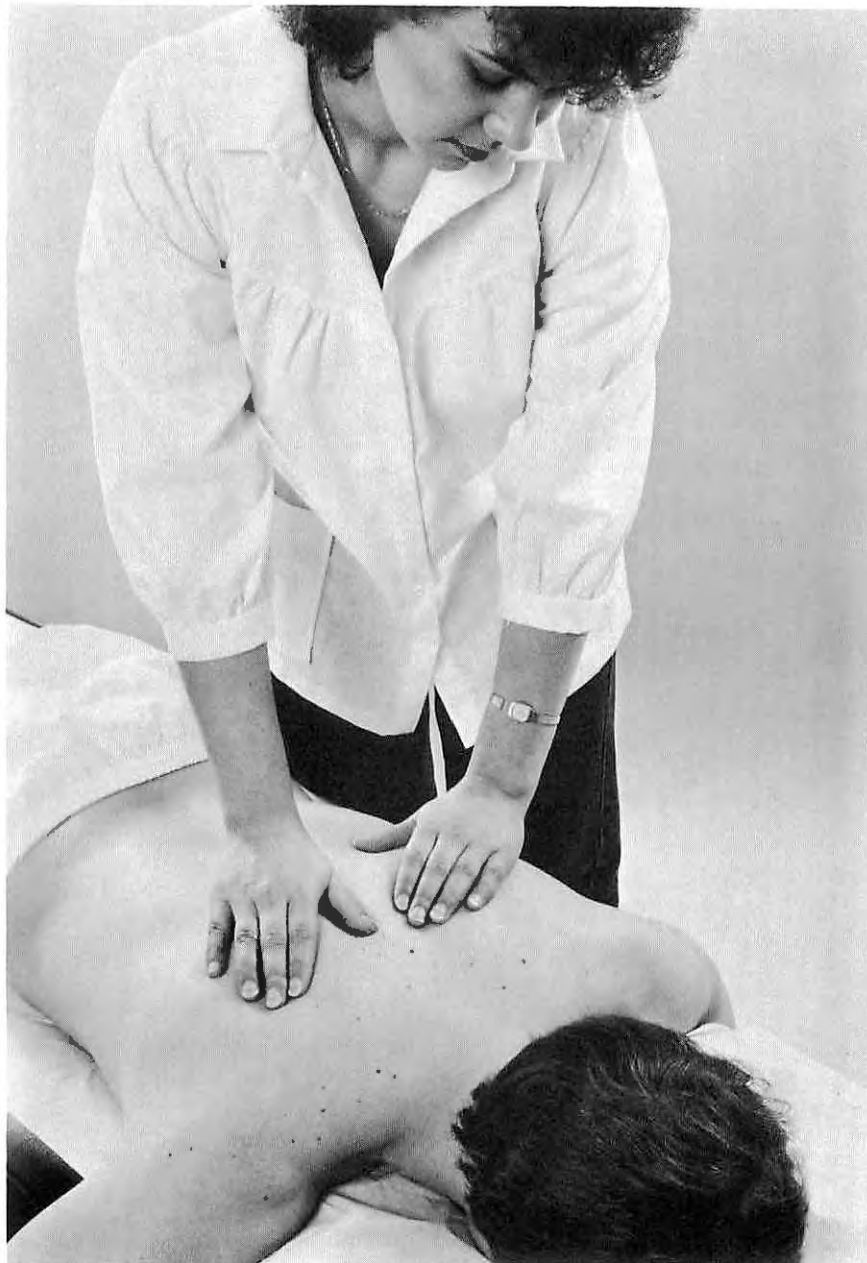


Figure 7.7
Manual massage administered by a chiropractic assistant.



Figure 7.8
Trigger point therapy administered by the chiropractor utilizing a rubber-tipped T-bar instrument.



Figure 7.9
Digital pressure applied to trigger points in the upper thoracic and occipital areas.



Figure 7.10
Internal contact for adjustment of the skull bones.

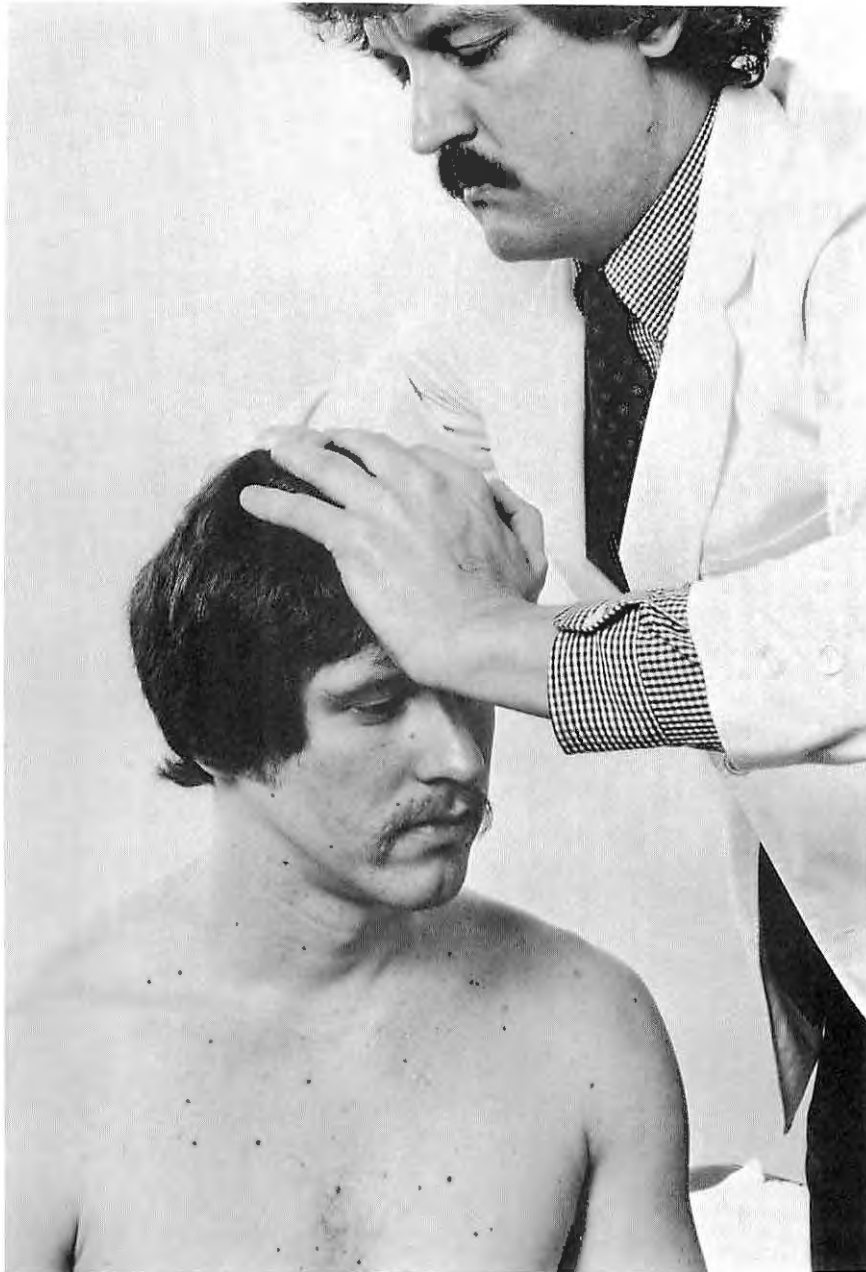


Figure 7.11
Cranial adjusting utilizing a steady rhythmic squeezing of the skull.

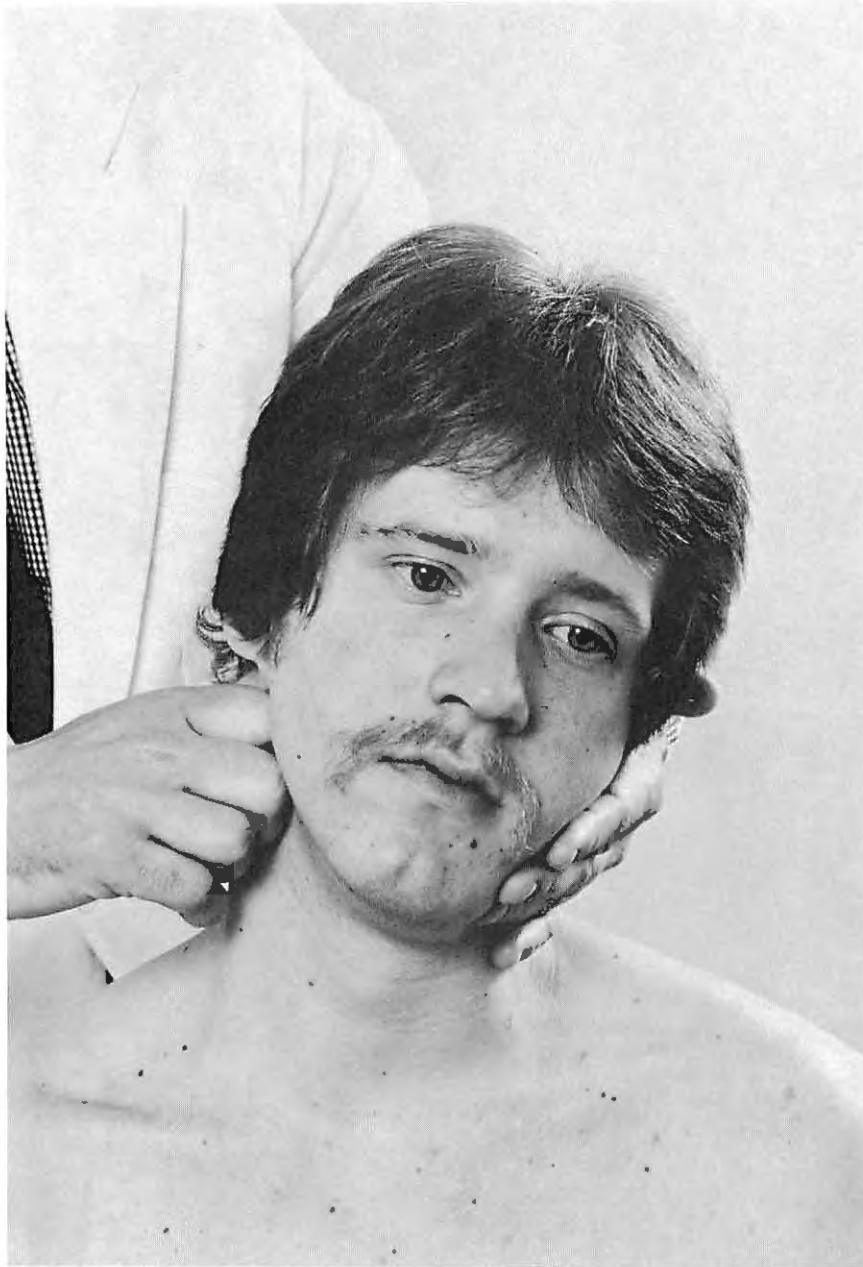


Figure 7.12
External contact and adjustment of the temporomandibular joint.

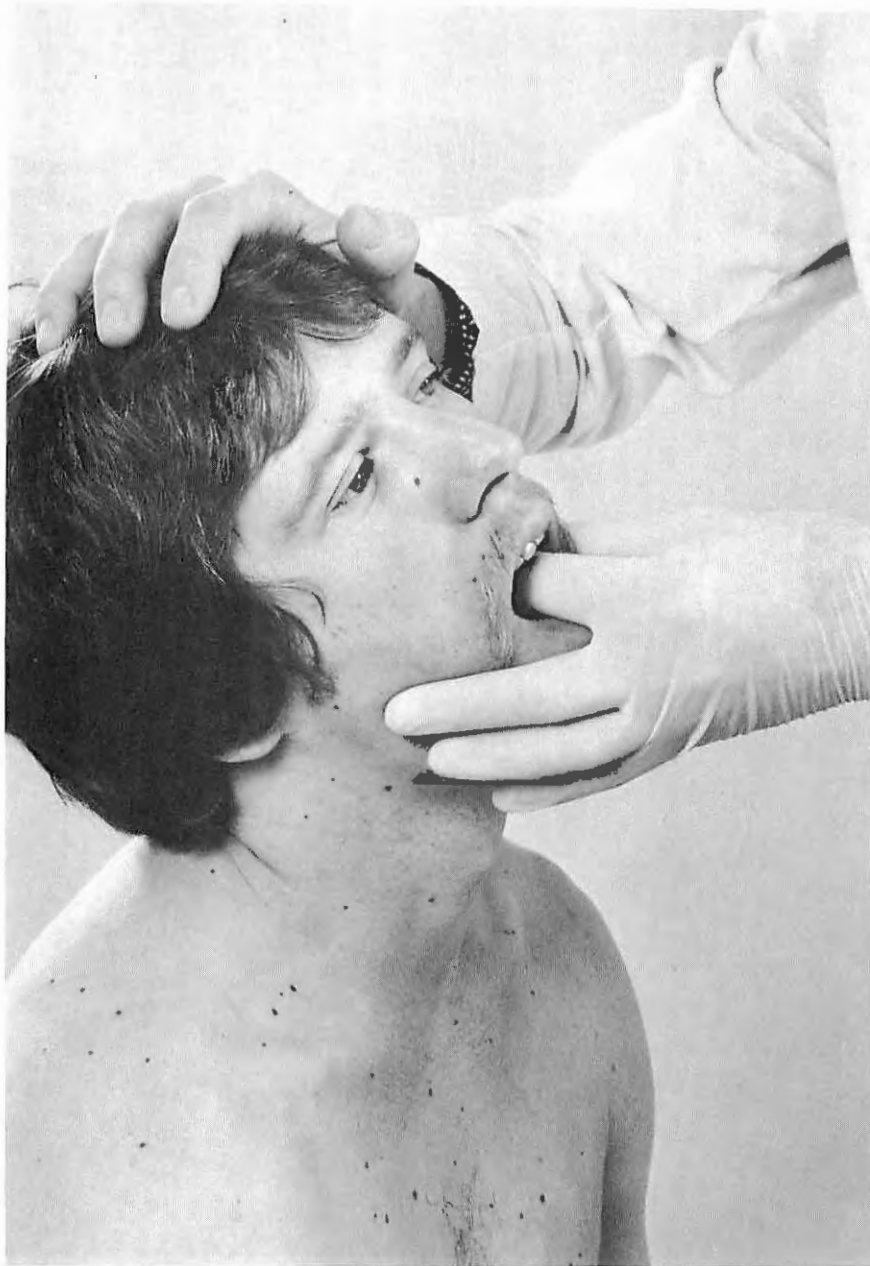


Figure 7.13
Internal contact for adjustment of the temperomandibular joint syndrome (TMJ).



Figure 7.14
Adjustment of the spine utilizing the spring-loaded ACTIVATOR instrument.

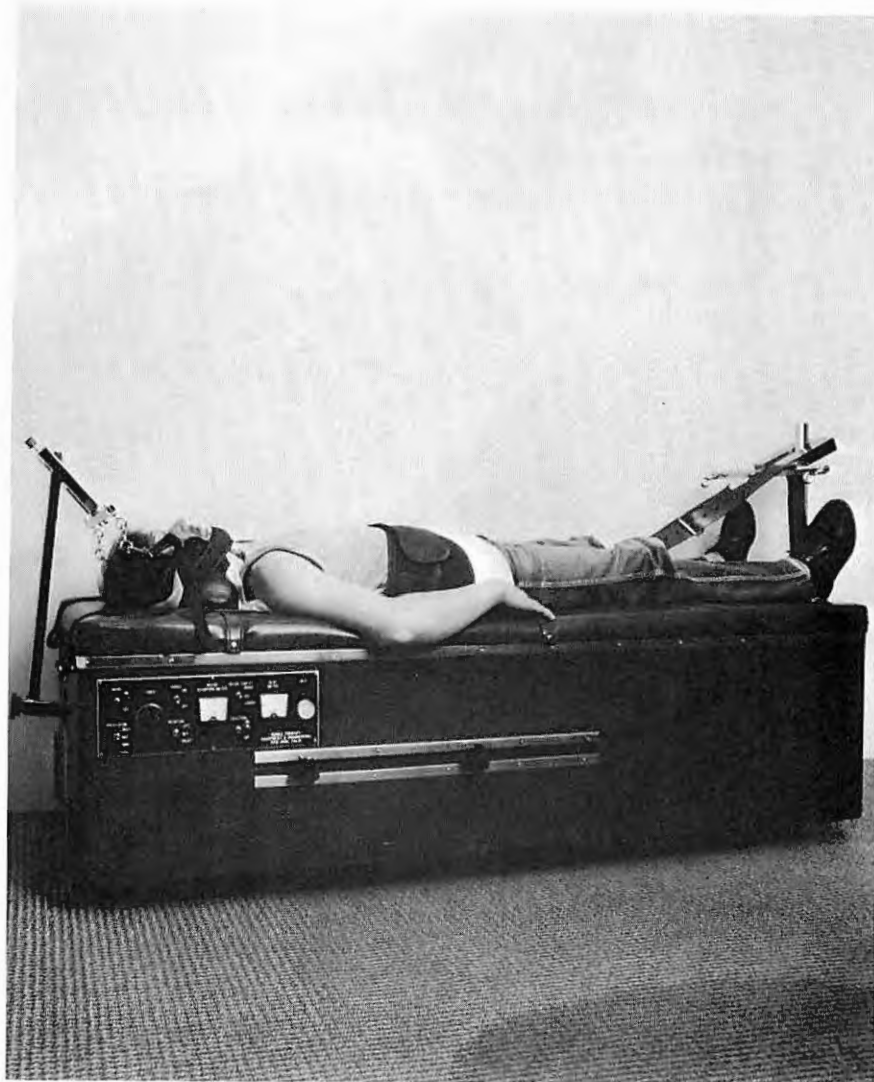


Figure 7.15
Utilization of motorized intermittent cervical and lumbar spinal traction.



Figure 7.16
Utilizing a Spinalator containing a motorized roller mechanism to reduce spinal fixations and provide physical stimulation for increased blood flow to spinal joints and muscles.

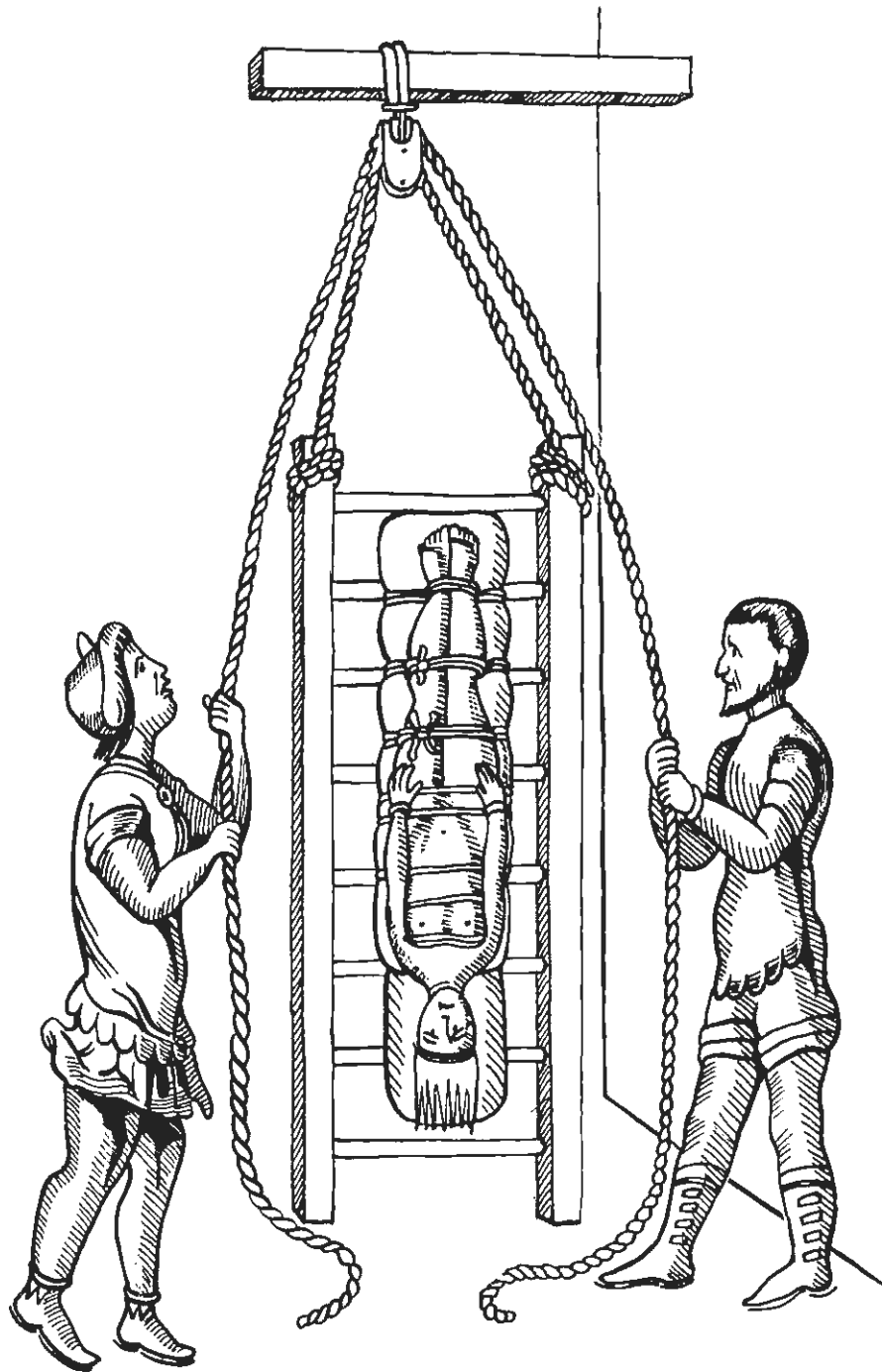


Figure 7.17

Representation of the ancient mode of performing succussion as described by Hippocrates given by Vidus Vidius in the Venetial edition of Galen's works.

W. C. Lee, D.C., and A. W. Fuhr, D.C.
821 East Bridge St.
Redwood Falls, MN 56283

7.3.3 Craniopathy

This technique was developed by Nephi Cottam. It is based on the theory that the alignment of the bones of the head can be disrupted by stress, accidents, the birth process, and disturbing mental and/or emotional experiences that create pressure within the sutures where the skull bones join. Calipers and measuring tapes are used to assess bone alignment. Adjustments are administered by hand only, in an attempt to relieve pressure within the sutures. Nephi Cottam's son is now continuing his work. (See p. 31 for a general evaluation of cranial adjusting.

Calvin Cottam, D.C.
1017 South Arlington Ave.
Los Angeles, CA 90019

7.3.4 Chiroenergetics

This method of adjusting is based on a theory that muscle tension and rigidity interfere with proper emotional and personality growth. Practitioners use no instruments but only the hands in spinal adjustments and muscle manipulation.

Edwin H. Kimmel, D.C.
8514 Fifth Ave.
Brooklyn, NY 11209

7.3.5 The Pierce-Stillwagon Technique

This full-spine technique, utilizing usual chiropractic analytical instrumentation and X-ray analysis, was founded by W. V. Pierce and G. Stillwagon, graduate chiropractors. One of the analytical instruments is a Derma Thermo-O-Graph, which is used to measure skin-surface temperature in an attempt to locate spinal subluxations. Adjusting is by hand and includes all spinal segments.

Pierce-Stillwagon Seminars
767 Dry Run Rd.
Monroeville, PA 15063

7.3.6 The Receptor-Tonus Method

This approach, devised by Raymond L. Nimmo, D.C., is based on a theory that a muscle that has lost its normal tone as a result of accident or specific trauma creates abnormal impulses that travel to the spinal cord and cause further reflex hypertonicity. This in turn can alter the normal positions of spinal segments and produce subluxations. Nimmo's theory calls for aligning spinal segments and manual manipulation to ease any muscle trigger points, which could produce vasoconstriction resulting in ischemia.

Raymond L. Nimmo, D.C.
Nimmo Technical Seminar
Box 416
Granbury, TX 76048

7.3.7 The Cox Disc Technique

The Cox seminar brochure describes this technique as follows:

James M. Cox, D.C., A.C.B.R. innovator of Chiro-Manis distraction technique in treating lumbar disc protrusion and prolapse, facet syndrome, sacroiliac abberancy, scoliosis, spondylolisthesis, and fixation subluxation.⁸

The program includes a comprehensive orthopedic and neurological examination of the lower back. A special table is employed, and various therapeutic modalities are available for disc and lower back syndromes.

James M. Cox, D.C., A.C.B.R.
3125 Hobson Rd.
Fort Wayne, IN 46805

7.3.8 The Leander Spinal Correction Method

This is a full-spine adjusting method founded by Lee Echardt, DC. It utilizes an adjusting table specifically designed to extend the lower back for disc problems, scoliosis, and full-spine subluxations.

Leander Research Chiropractic Clinic
10830 Kent-Kangley Rd.
Kent, WA 98031

7.3.9 Spinal Column Stressology

A promotional brochure from Lowell E. Ward, DC, founder of this method, includes the following:

Dr. Lowell E. Ward will astound you with his inspirational and innovative discussions on "the synchronicity of the spinal column-pelvic-meningeal unit." The ability to predict the potential heart attack, stroke, degenerative diseases, psychoses (not to mention their iatrogenicity). The history and development of the revolutionary new chiropractic science Spinal Column Stressology and much, much more!"

This is a full-spine, light-force adjusting method. Complex mathematical formulae are used to analyze spinal subluxations.

Spinal Stress Seminars Inc.
3535 E. 7th St.
Long Beach, CA 90804

7.3.10 The Gonstead Full-Spine Method

This full-spine adjusting method, founded by C. S. Gonstead, a student of B. J. Palmer, espouses standard, analytical clinical procedures to diagnose spinal subluxations. These routinely include instrumentation, digital palpation, motion palpation, visual analysis, and X-ray. The X-rays, full-spine 14 × 36 A-P and lateral films, are examined with a complex line-drawing procedure. Adjustments are administered by hand only on special tables.

Gonstead Clinical Study Society
P.O. Box 46
Mt. Horeb, WI 53572

7.3.11 The Pettibon Method

This spinal adjusting procedure was devised by Burl R. and Grover Pettibon, practicing chiropractors in Tacoma, Washington. It involves a detailed analysis of misalignments in the entire spinal column, employing complex measurements in millimeters and degrees. An instrument is employed to adjust the neck region; full-spine adjustments are made by hand.

Burl R. Pettibon, D.C.
8716 E. Mill Plain Blvd.
Vancouver, WA 98660

7.3.12 The Bio-Energetic Synchronization Technique

This method attempts to redistribute the body's energy supply—physical and mental—so that it is balanced and synchronized. The physical goal is to make spinal muscles pull displaced vertebrae back into normal position. This is another light-force technique administered by hand only and preceded by comparing leg lengths and bilateral muscle strength.

Milton T. Morter, Jr., D.C.
302 South Seventh
Rogers, AR 72756

7.3.13 The Von Fox Combination Technique

The Von Fox Combination Technique is based on procedures for relaxing the body to allow internal reflexes to stabilize, thus assisting the body to balance the spinal column. A general, light, full-spine adjusting technique is employed with supportive stimulation and stretching of muscles and rehabilitative exercises.

Spears Chiropractic Hospital
927 Jersey St.
Denver, CO 80220

7.3.14 The Toftness System of Chiropractic

This light-force, full-spine technique is based on a theory that the ends of the spine control nerve transmission, and that stretching the nerve fibers related to the spine causes interference with normal nerve-impulse conduction. The founder of this technique, I. N. Toftness, has created a research foundation to establish his theories as scientific. This method utilizes calipers to measure spine length, X-rays for analysis, a research radiometer for subluxation detection, and a special, hand-held pressure applicator.

I. N. Toftness, D.C., Pres.
Toftness Postgraduate School of Chiropractic Inc.
Box 547
Cumberland, WI 54829

7.3.15 The Palmer Upper-Cervical Technique

This method of adjusting the neck region was developed by B. J. Palmer and was once termed the toggle-recoil adjustment. The patient is placed on the right or left side, according to the determined direction of the subluxation. The maneuver consists of simultaneous and extremely rapid contraction of the chiropractor's pectoralis and triceps muscles, which exerts an adjustive thrust through the pisiform bone of the contact hand. Standard methods of spinal analysis including X-rays precede the adjustment.

Palmer College of Chiropractic
1000 Brady St.
Davenport, IA 52803

7.3.16. Applied Kinesiology

Kinesiologists study the principles of mechanics and anatomy in relation to human motion. The most prominent chiropractic proponent of this full-body adjustive procedure is George J. Goodheart, D.C. This method involves muscle testing and often nutritional and dietary analysis.

George J. Goodheart, D.C.
542 Michigan Bldg.
Detroit, MI 48226

7.3.17 Polarity Therapy

This method of balancing opposing body “energy fields” was developed by a chiropractor, osteopath, and naturopath named Randolph Stone. Hard and soft tissue manipulation is used to achieve body balance. Specific diets and postural stretching exercises are often prescribed.

Edward E. Jarvis, D.C.
572 Gibson Ave.
Pacific Grove, CA 93950

7.3.18 The Thompson Terminal Point Technique

This technique was devised by J. Clay Thompson, a chiropractor and graduate of Palmer College. His brochures describe it as a method of administering low-force, high-velocity adjustive maneuvers. A leg-check system is employed, and a special “terminal-point” table is used for full-spine adjustments with extremely light force.

Thompson Educational Workshop
4419 Royal Oaks Dr.
Davenport, IA 52806

7.3.19 The Temporomandibular Joint Technique (TMJ)

This is a method of adjusting the major jaw joint of the temporomandibular joint to balance jaw function and correct bite problems.

Dean Gerimonte, D.C.
Roy Barnes, D.C.
11107 Kent Kangley Rd.
Kent, WA 98031

7.3.20 The Directional Non-Force Technic (DNFT)

This light-force spinal adjusting method was invented in 1922 by Richard Van Rump, D.C. His theories involve the practitioner’s attempting to contact the “wisdom and power” of the body through conscious thought to formulate a chiropractic analysis of spinal subluxations. This approach includes a special leg-reflex method of analysis, and X-rays to rule out bone pathology.

Richard Van Rumpt, D.C.
18 West Padre St.
Santa Barbara, CA 93105

7.3.21 Reinert's Procedure

This full-spine adjusting technique, developed by Otto C. Reinert, D.C., involves special maneuvers to adjust the spinal discs. The extremities and extraspinal joints are also subject to manipulation. Reinert's Procedure is manually performed and standard chiropractic analytical tests are used for analysis.

Otto Reinert, D.C.
1005 Dunn Rd.
Florissant, MO 63031

7.3.22 The Mears Technique

This technique attacks occipital cervical distortions to treat nerve problems. It involves the use of upper cervical X-rays to locate subluxations of the occiput and the cervical vertebrae. The practitioner applies opposing forces to realign the segments. Standard analytical and diagnostic methods are used.

D. B. Mears, D.C.
160 North Main St.
St. Albans, VT 05478

7.3.23 Rolfing or Structural Integration

Rolfing is aimed at balancing the entire structure of the body in its fight against gravity. A sequence of muscle manipulations are done to help the body withstand gravity and to maintain an erect, harmonious, efficient, and graceful movement pattern. Rolfing was developed by Ida P. Rolf and is not a purely chiropractic technique.

Richard A. Stenstadvold, Exec. Dir.
Rolf Institute
P.O. Box 1868
Boulder, CO 80302

7.3.24 The Spastic Muscle Research Bureau

These practitioners are trained to relax spastic muscles and assist vertebral and skeletal bones to resume and maintain normal structural alignment.

Spastic Muscle Research Bureau Inc.
11276 Santa Monica Blvd.
West Los Angeles, CA 90025

7.3.25 The De Jarnette Sacro Occipital Technic

According to this theory, the body must be balanced to function properly and the two basic balancing points are considered to be the sacrum and occiput. De Jarnette blocks or wedges and special adjusting boards are used to gently realign spinal vertebrae. Standard physical and muscle testing, as well as other routine chiropractic procedures, are employed.

M. B. De Jarnette, D.C.
Box 338
Nebraska City, NE 68410

7.3.26 The Endo-Nasal Techniques

These specialized chiropractic techniques for removing obstructions and impediments to oxygen intake were developed by D. D. Gibbons, D.C. The rationale is that many illnesses result from oxygen starvation, nerve impingement, or respiratory tract obstructions. Special adjustive maneuvers are employed for the involved areas. (See p. XXX for a general discussion of endo-nasal therapy.)

D. D. Gibbons, D.C.
1520 East Main St.
Kalamazoo, MI 49001

7.3.27 Concept Therapy or Suggestive Therapy

Thurman Fleet developed this approach of using suggestive therapy in conjunction with spinal adjusting to relieve functional disorders. The Concept Therapy Institute teaches methods of verbally relating to the patient, making suggestions that are supposed to enhance the chiropractor/patient relationship and the curative effects of adjustment.

Concept Therapy Institute
Route 8, Box 250
San Antonio, TX 78228

7.3.28 Chiropractic Neuro-Biochemical Analysis

In neuro-biochemical analysis, the chiropractor "reads" the body's reaction to certain stimuli placed in close proximity to the skin to determine which areas of the spine to adjust and when. This system is based on a theory of body "bio-chemical individuality."

Walter K. Ehmann, D.C.
615 Country Club Rd.
Fort Collins, CO 80522

7.3.29 The National Upper Cervical Chiropractic Association Inc.

This organization, headed by Ralph R. Gregory, D.C., is devoted to the scientific analysis of upper-cervical or C1 subluxations and their effects on the neurological imbalance of the central nervous system. Much of the group's work is based on that of John Grostic, an early disciple of B. J. Palmer. The method determining C1 misalignment is a combination of complex mathematical calculations and detailed biomechanical analysis of neck structures. The workup includes X-rays, a leg check system, and measurement of spinal physical stress distortions with an anameter. Realignment of C1 is accomplished by a specific light force adjustment.

Ralph R. Gregory, D.C., Pres., NUCCA-NUCRA
221 West Second St.
Monroe, MI 48161

7.3.30 Fixation Analysis—Motion Palpation

Developed by M. Likens and H. Gillet, this system is based on a thorough study of normal and

abnormal movement of all vertebral and extra-vertebral articulations in an effort to determine what subluxations exist and how these are manifested in joint motion. Routine medical and chiropractic diagnostic methods are used for a total clinical assessment.

Motion Palpation Institute
Donald M. Peterson, D.C.
P.O. Box 6100
Huntington Beach, CA 92646

7.3.31 Spinal Touch Treatment

This technique is based on the premise that spinal health is greatly influenced by gravity. A system of analysis including a plumb line is used to locate spinal deviations. This is a light force technique applied by hand only to the various spinal muscle structures.

LaMar Rosquist, D.C.
P.O. Box 9243
Salt Lake City, UT 84109

7.3.32 The Perianal Postural Reflex Technique

In this method, devised by Ronald J. Watkins, D.C., the practitioner utilizes a light contact often under the sacrotuberous ligament, in an attempt to balance the neurological functions of the central nervous system.

Ronald J. Watkins, D.C.
Life College of Chiropractic
1269 Barclay Circle
Marietta, GA 30062

7.3.33 The Reams Methods of Biochemical Testing and Treatment

A brochure from Chiropractic Specialty Services, Colorado Springs, Colorado, announcing a seminar, describes the REAMS Method as

An amazing new approach to biochemical testing and treatment that is sweeping the country and turning the world of Clinical nutrition . . . both medical and drugless . . . upside down.¹⁰

The brochure further explains that the REAMS Method is based on light-refraction, electronic, and chemical testing of specially prepared fresh urine and sputum samples: "An equation is created which measures internal organ and biochemical function."¹¹ This equation or biochemical "fingerprint" is compared to healthy parameters, and the clinician then devises a dietary program to balance or normalize it.

Prospective attendees are told that in this clinical-nutrition seminar they will learn how to select specific prescriptions for a multitude of conditions in a matter of minutes. Some problems for which the REAMS method supplies such prescriptions are:

Arthritis	Arrhythmia
Arteriosclerosis	Ulcers
Liver trouble	Palsy
Menopause	Bladder trouble
Sinus	High blood pressure

Asthma
Heart trouble
Kidney trouble

Impotence
Skin conditions
Diverticulitis¹²

7.4 Chiropractic Physiotherapy—Common Auxiliary Treatments

7.4.1 Introduction

A chiropractor uses basically his hands and intricately designed adjusting tables to correct spinal subluxations. Specificity of equipment and adjustive maneuvers distinguishes chiropractors from most other health practitioners who use spinal manipulation and physical therapy to correct spinal lesions. Very early in chiropractic history the liberals began to use non-adjustive procedures such as heat, cold, traction, massage, electrical modalities, back supports, hydrotherapy, and active and passive exercise. For practical and clinical purposes, medical and chiropractic physiotherapy could be viewed as identical, and defined as the treatment of disease by physical and mechanical means with the use of massage, exercise, water, heat, cold, light, electricity, and air. Chiropractic physiotherapy, then, is medical physiotherapy administered by a chiropractor.

There are three basic requirements for the rational use of chiropractic physiotherapy: first, a correct diagnosis with an understanding of the disease state at the time of therapy; second, knowledge of the mechanism of action of the modality being used; and third, awareness of the predictable effects.

This book does not list all such procedures employed or offer specific instructions for those commonly used. Such information is readily available in various texts. Discussion is limited to the techniques commonly used by chiropractors, with a brief statement of rationale for their use and contraindications. Appendix X lists procedures allowed by law for each state. These are constantly changing with legislation, legal interpretation, and rulings by chiropractic disciplinary boards. Thus, they can be used only as a general guide.

Any physiotherapeutic process must parallel the disease pathogenesis and be directed at stopping and/or reversing the process.

Whether tissue becomes impaired through direct trauma or an accumulation of micro-traumas, or is undergoing a secondary reaction to a neuropathic process initiated elsewhere, the following stages usually occur:

1. Hyperemia or active congestion—excess of blood in a part, engorgement
2. Passive congestion—engorgement with little blood movement, stagnation
3. Consolidation of the protein exudate—organization of stagnated particles arranged, but not bonded
4. Formation of a fibrous coagulate
5. Organization through fibroblastic activity (immature fibrous cells)
6. Fibrosis—creation of fibrous cells replacing normal tissue, low elasticity, decreased blood flow, decreased range of motion within joints, muscle, etc.
7. Ischemia—decreased blood flow, leads to tissue death

These processes often exist in different proportions within the same tissue at the same time; however, one is usually paramount, and treatment should be targeted to it. A change in therapy is often necessary as the dominant feature alters. A coexisting neuropathy may be recognized, and therapy must be planned for not only the local tissue, but also the spinal segment directly involved.

Table 6.5 relates the stages listed above to therapeutic procedures and their effects:

In any stage, too vigorous an application of therapy may be traumatic and a more active stage of inflammation may recur; steady progress should be the goal. The practitioner should also avoid excessive variety, duration, and intensity of treatment.

7.4.3 Spinal Inversion Therapy

Inversion consists of turning the body upside-down so that the feet are uppermost and the head is nearest the floor. Lesser degrees of inversion can be attained by lying on an inclined plane with the head downward.

With complete inversion, the abdomen draws inward, the chest expands, and there is reduced pressure on the diaphragm. Inversion relieves pressure in the lower body, and temporarily eases the difficult job of supplying blood to the upper vital organs. It reverses the downward strain on the heart and vascular tree.

A number of adjustive techniques have been combined with inversion therapy. These include cervical maneuvers, the lymphatic pump for thoracic viscera, diaphragm releases, abdominal and pelvic visceral techniques, and traction. A fixed angle of about 45 to 70° is required for adjustive thrusts.

In any position, care must be taken to prevent dorsiflexion and rotation with force from posterior to anterior, for this combination puts the vascular system, vertebrae, carotid arteries, and Circle of Willis (cerebral blood supply) at risk. In addition, patients with cardiac, blood vessel, or eye problems should have medical approval before beginning any degree of inversion therapy.

7.4.4 Diathermy

The main physical effect of diathermy is the heating of human tissues. As this occurs, the heat-regulating mechanism of the body endeavors to dissipate heat so that a consistent temperature can be maintained. This is accomplished by dilation of the capillaries and subsequent increase of arterial and venous circulation. This hyperemia, or blood flow, speeds up the removal of blood tissue products. The general physiological effects of heating are as follows:

1. Local vasodilation and increased glandular secretions
2. Local sedative to the nervous system; therefore may reduce pain
3. Local relief of muscle cramps and spasms; therefore, may relieve pain
4. Increased infection-fighting, white blood cell population, both locally and generally
5. Increase in body temperature, heart rate, respiration, and metabolic rate

General application results in dilation of peripheral blood vessels and related deeper structures. This is accompanied by a rise in body temperature, which causes an increase in pulse rate, respiration, and metabolism.

Diathermy eases irritative conditions of sensory nerves (pain) and motor nerves (spasms and cramps). It has been effective in reducing infections, especially of gonococcal origin. However, the disappearance of gonococci and the relief of symptoms should not be wholly attributed to diathermy, but rather to efforts of the immune system, such as an increased number of white blood cells.

Contraindications of diathermy

Generally speaking, diathermy is contraindicated when there is any question of hemorrhage. Specifically, it is contraindicated over areas exhibiting the following:

1. Deficiency of thermal nerve reaction (may burn the skin due to lack of feedback)
2. Tuberculosis
3. Malignancy
4. Localized, acute, recent infections and/or pus, or encapsulated swellings
5. Menstruating or fallen (gravid) uterus
6. Varicose veins or venous inflammation
7. Cardiovascular diseases when hemorrhage may occur
8. Metallic implants
9. Epiphyseal centers (bone/cartilage junction where growth occurs)
10. Peptic ulcers or any tendency to bleed
11. New fractures or cast
12. Occlusive vascular disease (may lead to stroke, heart attack, etc.)

7.4.5 Ultraviolet Light

Luminous and non-luminous sources of heat radiation produce marked hyperemia, tissue relaxation, and relief from pain. This assists in the resorption of products of trauma and inflammatory reaction and aids the body's mechanisms for defense and restoration.

The chief natural source of ultraviolet (UV) light is the sun. Like all light, it travels in waves, a collection of different lengths that fit into its own unique spectrum. Ultraviolet light does not act on the body as a unit; the various zones within its field cause different biological effects. Those effects can be classified as photochemical (skin) and biological (blood and metabolism). The photochemical effects, erythema (reddening of the skin) and pigmentation, are described in Table 7.9:

7.4.6 Infrared and/or Heat

Because of its comparatively simple and safe application, infrared radiation is preferable to diathermy when efficient heating of structures not too deeply situated is desired. Infrared penetrates the entire thickness of the skin, part of the subcutaneous tissue, the superficial muscle strata, and local tendons and bones. The principal indications for radiant heating appear in Table 6.8:

7.4.7 Ultrasound

In ultrasound, sound waves of very high frequency—beyond the range of normal human hearing—are irradiated into the body. Mechanical, chemical, and psychological factors may cause the nervous system to alter its normal stance, decreasing its ability to resist disease and maintain balanced body functioning. Ultrasound reduces nervous system conductivity, and therefore may stop the nervous system from maintaining a pattern of disease.

In addition to its action on the nervous system, Ultrasound has additional effects, listed in Table 7.12.

7.4.8 Galvanism

Galvanism is the therapeutic use of direct electric current. All generators of a galvanic current have two terminals or poles, positive and negative (much like a car battery). *In all forms of galvanic treatment in which an electrode is employed, it must be connected to the pole indicated by the condition treated.*

When the current begins to flow there will be gentle tingling and prickling under the electrodes; as skin resistance gradually decreases, more current can be tolerated and the prickling sensation becomes a feeling of gentle warmth. For ten minutes to one-half hour after treatment, the skin under the electrodes will show a sharply demarcated redness.

7.4.10 Iontophoresis

The caustic ions zinc and copper may be employed in the treatment of infected surfaces and chronic infections of sinuses and cavities. Copper is the most useful metal for iontophoresis, due to the antiseptic value of its salts in tissues. Iodine and chloride ions may be employed for softening and loosening fibrous tissue, adhesions, and scars.

The number of ions transferred into the body depends primarily on the amount of current used and not the concentration of the solution; 2 percent solutions are usual and recommended. Chemicals are placed on the pole that repels them and driven into the tissues toward the pole that attracts them. Solutions must not contain impurities. Cotton and cellu-cotton are preferred for covering of electrodes; asbestos paper, cellu-cotton, felt, and gauze are used in cases where the absorbent material is the active electrode. Electrode contact must be even, as unequal pressure will cause a concentration of current at pressure points.

Substances commonly used in ionization and the poles at which each should be put

<i>Positive</i>		<i>Negative</i>	
1. Magnesium sulphate	2%	1. Potassium iodine	2%
2. Copper sulphate	2%	2. Sodium chloride	2%
3. Zinc sulphate	2%		
4. Calcium chloride	2%		

7.4.11 Hypothermy

When prolonged cold is applied locally, the treated skin temperature of course drops: vessels contract and blood flow and heat loss are reduced. The subsequent physiological effects are a reduction in blood volume and cell metabolic and oxygen needs. Because nerves are supplied by blood, decreased

blood flow also results in local anesthesia. Prolonged cold may modify muscle activity, causing them to be capable of slow movement only.

7.4.12 Vapo-Coolants

Vapo-coolants are used to “supercool” the skin and are employed in the treatment of trigger points. The two types of coolant spray that have been used are ethylchloride and fluoromethane. Ethylchloride was used prior to the development of fluoromethane, but is not recommended because it is highly flammable, excessively cold, and toxic. Inhalation should be avoided. Fluoromethane is less cold and is nonflammable and nontoxic.

The coolant should be applied in a direct stream rather than a spray. Fluoromethane comes in a pressurized bottle with a nozzle. The stream should not strike the skin at a right angle; it should be an acute angle with the bottle held approximately 18 inches away. The area is covered in one direction only with the stream traveling approximately four inches per second. Repeated applications are one-fourth to one-half inch apart, covering each area only once.

The method of application is critical. Overcooling or “frosting” the skin causes the muscle to be hypertonic and has little therapeutic value. If it is necessary to repeat the application, the skin must be allowed to warm first.

7.4.13 Hydrocollator (Chemical Pack)

The hydrocollator is a preheated silica-gel pack that provides moist heat. This heat acts to relieve pain, increase local blood flow, and relax muscle spasms. The hydrocollator is prepared in an electrical heating tank or basin of boiling water. There should be six or seven thicknesses of towel or other padding between the skin and the moist pack. The patient should not be allowed to lie upon the pack.

7.4.14 Heel and Sole Lifts and Arch Supports

Lifts may be used to correct for a short leg or other defects by leveling the femur heads, sacrum base, or lowest spinal segment.

The primary method of determining the need for heel or sole lifts is an x-ray study (of the pelvis) in an erect posture, showing the sacral base and the femur heads. If measurement of the level of the femur heads is impossible due to osseous anomalies an x-ray of both legs from the femur head to the foot will offer a definitive, comparative leg length.

The most common cause for a sacrum or pelvis's not being level is a short leg. The deformity may be due to a developmental defect in foot or leg or an accident. The next most frequent cause is pelvic developmental defects. Others include such diseases as tuberculosis, osteomyelitis, or neoplasm.

If the height required for correction is over one-half inch, it is advisable to use both a sole and a heel lift to avoid distortion of the foot and for greater patient comfort. They need not be of the same thickness.

A person with legs of equal length can still have a lateral scoliosis, due to a transitional lumbosacral segment, sacral, or iliac anomaly. In such a case the base of the sacrum or lowest normal vertebral segment is leveled with a lift and considered the base of the spine. This may call for a large heel lift, which could be impractical. Because of the torsion that would be applied to the pelvis, the doctor may be able to use only 50 percent of the amount indicated.

7.4.15 Colon Irrigation (Colon Lafléuge)

Washing out the colon with soapy water has been refined to a system that employs an imposing electrical machine with many hoses and gleaming stainless-steel surfaces. Colon irrigation is performed under the pretense of helping the body rid itself of toxins. Proponents claim that these toxins, which have yet to be defined scientifically, can cause a reflex irritation of the nervous system and hyper-contraction of lumbar muscles, thus causing subluxations of the lumbar spine.

Numerous people have died following colon irrigation conducted with contaminated appliances. There is a serious danger of misdiagnosis by chiropractors who have inadequate training for assessing medical disorders of the rectum and colon. Colon therapy is clearly the practice of medicine, and its use by a chiropractor in all but the two or three states where it is specifically mentioned in the Chiropractic Practice Act is considered malpractice.

7.4.16 Transcutaneous Electrical Nerve Stimulation (TENS)

A legitimate, effective tool for control of chronic pain that is not relieved by customary conservative methods is TENS. It often alleviates pain afflicting the neck and lower back; peripheral neuropathies; phantom-limb, postherpetic, and postoperative pain; pain associated with arthritis; and acute pain as in sprains. It is also used before and after surgery when indicated. Through electrodes placed on the skin in strategic locations, a low-voltage current transmits signals that block pain transmission to higher nerve centers. There is a compact electrical home-treatment unit similar in concept to a pacemaker. Theoretically, the current generated by a TENS unit depolarizes afferent or sensory nerves before the pain impulse reaches the brain for interpretation. Some proponents believe that such low-frequency currents stimulate the body to produce endorphines, chemical neurotransmitters that block transmission of pain impulses. Transcutaneous electrical nerve stimulation is legal for chiropractors in a few states, which allow other medical electrotherapies.

7.5 References

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12. *ibid*

TABLE 7.1
Unusual Techniques of Diagnosis and Treatment:
Past and Present

1. Albert Abrams: Gadgets and Electrical Impulses
2. Polarity
3. The Down Radiotherapeutic Instrument
4. The Micro-Dynameter
5. The Diapulse Device
6. Low-Powered Cold Laser Devices
7. Acupuncture
8. Kinesiology
- ~~9. Iridiagnosis~~
- ~~10. Chelation Therapy (Chemo-Endarterectomy Therapy)~~
- ~~11. Raw Glandular Therapy (Cellular Therapy)~~
- ~~12. Homeopathy~~
13. Prescriptive Dietary Therapeutics and Weight-Control Programs
14. Mega-Vitamin Therapy (Orthomolecular Therapy)
15. Holistic Healing (Holistic and/or Wholistic Medicine)
- ~~16. Naturopathy~~
- ~~17. Herbology (Herbalism)~~
- ~~18. Reflexology~~
- ~~19. Endo-Nasal Therapy (ENT)~~
20. Reflex Diagnostic Techniques Utilizing Body Magnetism
- ~~21. Spectroanalysis—Hair Sample~~
22. Contour Analysis
23. Minor Surgery
24. Bloodless Surgery

*for cell analysis
 magnets
 colonies*

TABLE 7.2
Specialized Auxiliary Adjustive Techniques

1. Extremity Adjusting
2. Massage and Trigger-Point Therapy
3. Cranial Adjusting
4. Adjustment for Temporomandibular Syndrome
5. Instrument Adjusting

TABLE 7.3
Massage

Physiological effects on tissues directly contacted and on deeper visceral structures

1. Increases flow of blood and lymph
2. Increases heart rate and blood pressure, when moderately forceful
3. Reduces edema (swelling), congestion, exudates (discharges), and coagulates (stagnated fluids)
4. Stretches and/or breaks tissue and interseptal adhesions
5. Reduces joint effusions and coagulates
6. Increases urinary production
7. Increases respiration when moderately forceful
8. Reduces motor and sensory nerve activity
9. Removes lactic acid from musculature and relieves fatigue
10. Over the abdomen, increases peristalsis and elimination of intestinal residues and debris
11. As a by-product of the latter effects, reduces pain

Contraindications

1. Skin infections and ulcerations
2. Local acute inflammatory processes
3. Acute deep or visceral inflammations
4. Phlebitis (inflamed veins), thrombosis (partially blocked blood vessel), emboli (free-floating particle in bloodstream that may cause occlusion), other vascular disease
5. Where there is a tendency to hemorrhage, such as varicosities, peptic ulcers, menstruation, etc.
6. Acute osteomyelitis, tubercular joints, or any infectious bone or joint disease
7. Malignant neoplasias (cancer)

General rules for application

1. Use adequate lubricant; do not irritate skin
2. Avoid too-vigorous or traumatic force, or too-lengthy treatment time
3. Avoid blood vessels, nerves, or other vital structures or areas
4. In stroking or effleurage using deep movements, work centripetally, towards the heart

TABLE 7.4
Standard Chiropractic Adjusting Techniques

1. The Logan Basic Technique
2. The Activator Method
3. Craniopathy
4. Chiroenergetics
5. The Pierce-Stillwagon Technique
6. The Receptor-Tonus Method
7. The Cox Disc Technique
8. The Leander Spinal Correction Method
9. Spinal Column Stressology
10. The Gonstead Full-Spine Method
11. The Pettibon Method
12. The Bio-Energetic Synchronization Technique
13. The Von Fox Combination Technique
14. The Toftness System of Chiropractic
15. The Palmer Upper Cervical Technique
16. Applied Kinesiology
17. Polarity Therapy
18. The Thompson Terminal Point Technique
19. The Temporomandibular Technique (TMT)
20. The Directional Non-Force Technic (DNFT)
21. Reinert's Procedure
22. The Mears Technique
23. Rolfing or Structural Integration
24. The Spastic Muscle Research Bureau
25. The De Jarnette Sacro Occipital Technic
26. The Endo-Nasal Techniques
27. Concept Therapy or Suggestive Therapy
28. Chiropractic Neuro-Biochemical Analysis
29. The National Upper Cervical Chiropractic Association Inc.
30. The Fixation Analysis—Motion Palpation
31. Spinal Touch Treatment
32. Perianal Postural Reflex Technique

TABLE 7.5
Chiropractic Physiotherapy—Common Auxiliary Treatments

1. Introduction
2. Spinal Traction
3. Spinal Inversion Therapy
4. Diathermy
5. Ultraviolet Light
6. Infrared and/or Heat
7. Ultrasound
8. Galvanism
9. Contractile or Sinusoidal Currents
10. Iontophoresis
11. Hypothermy
12. Vapo-Coolants
13. Hydrocollator (Chemical Pack)
14. Heel and Sole lifts and Arch Supports
15. Colon Irrigation (Colon Laflége)
16. Transcutaneous Electrical Nerve Stimulation (TENS)

TABLE 7.6
Effects of Therapeutic Procedures in Stages of Tissue Impairment

A. Stage of hyperemia or active congestion

<i>Procedure</i>	<i>Effects</i>
1. Ice packs	Vasoconstrictive
2. Positive galvanism	Vasoconstrictive, hardening of tissues
3. Ultrasound	Dispersing effect and increase of membrane permeability
4. Rest with possible support	To prevent irritation and further injury

B. Stage of passive congestion

1. Alternating hot and cold packs	Revulsive (drawing blood from one part to another)
2. Light massage, particularly effleurage (across muscle grain)	Revulsive
3. Passive manipulation	Revulsive, maintenance of muscle tone and freeing of coagulate and possibly early adhesions
4. Mild motion exercises	Same as 3
5. Surging sinusoidal stimulation	Same as 3
6. Ultrasound	Increase in gaseous exchange, dispersion of fluids, liquefaction of gels, and increase of membrane permeability

C. *Stage of consolidation of protein exudate and/or formation of fibrinous coagulate*

- | | |
|--|--|
| 1. Local, moderate, preferably moist heating | Mild vasodilation and increase in membrane permeability |
| 2. Moderate exercise | Revulsive effects, freeing of coagulate and early adhesions, maintains muscle and ligament tone |
| 3. Motorized alternating traction | Same as 2 |
| 4. Moderate range of motion manipulation | Same as 2 |
| 5. Ultrasound | Hyperemia, liquefaction of gels, dispersion of gases and fluids, increase of membrane permeability, softening of tissues |
| 6. Surging or pulsating sinusoidal current | Same as 2 |

D. *Stage of fibroblastic activity and fibrosis*

- | | |
|--|--|
| 1. Prolonged deep heating | Prolonged vasodilation, increase of membrane permeability, chemical activities |
| 2. Deep massage, such as petrissage (stroke along muscle fibers) | Tends to break down fibrotic tissue and create more elasticity |

E. *Stage of Ischemia*

- | | |
|---|---|
| 1. Superficial heating modalities for superficial ischemia such as
a. Hydrocollator Pack (Moist heat pack)
b. Infrared light
c. Whirlpool (100°–105°F)
d. Visible light
e. Hot Air (moist) | Increased vascularity and circulation |
| 2. Deep tissue ischemia such as
a. Diathermy (shortwave, microwave)
b. Ultrasound | Increased vascularity and circulation |
| 3. Vigorous exercise, preferably with slight traction or at least without bearing weight | To maintain muscle and ligament integrity, stretch fibrotic tissue, break adhesions, and create more elasticity |
| 4. Motorized alternating traction | Same as 3 |
| 5. Negative galvanism, particularly with an antisclerotic such as potassium iodine | Vasodilation, softening, liquefaction, and anti-sclerotic |
| 6. Ultrasound | Softening of tissues |
| 7. Active joint manipulation | Reducing muscle spasm, breaking adhesions and fibrotic tissue and restoring physiological motion |

NOTE: heating of ischemic tissues also increases the metabolism of these tissues and thus increases their demand for nutrients.

TABLE 7.7
Common Physical Therapeutic Agents and Their Effects

Physical Agent	Primary Effect	Secondary Effects
Hot water Hot air Radiant heaters Sun Diathermy Microwave	Thermal	Hyperemia Reduce sensory or motor irritations Attenuation of microorganisms
Sun Heated metals Carbon arc Mercury vapor arc	Photochemical	Erythema Pigmentation Activation of ergosterol (inactive form of vitamin D)
Galvanic currents	Electrochemical	Polarity vasomotor
Low frequency Interrupted current Sinusoidal current Alternating current	Electrokinetic	Muscle stimulation Increase in venous and lymph flow Reflex stimulation
Vibration Massage Intermittent traction Therapeutic exercise	Kinetic	Muscle stimulation Increase in venous and lymph flow Stretching tissue Reflex stimulation
Ice vapo-coolants Cryotherapy	Hypothermal	Sedation, decongestion Ischemia
Ultrasound	Thermal Chemical	Cellular massage Heat, sedative Vasodilation, hyperemia, increased extensibility of selectively heated tissues.

7.4.2 Spinal Traction

TABLE 7.8
Physiological Effects of Spinal Traction and Contraindications

Physiological effects of static traction

1. Immobilizes and splints strained, sprained, or fractured musculoskeletal tissues
2. Relieves muscle spasms.
3. Relieves compression effects on articular tissues due to muscle spasms or other compression factors
4. Reduces circumference of intervertebral disc, thereby helps restore it to normal position
5. Relieves compression effects of foraminal distortion and/or narrowing
6. As a by-product of these features, reduces congestion, stasis, and edema of associated tissues
7. Stimulates proprioceptive reflexes
8. Stretches fibrotic tissues and adhesions

Physiological effects of intermittent or alternating traction

1. Increases vascular and lymphatic flow; therefore reduces stasis, edema, and chronic congestion
2. Helps tone muscles, thereby reducing fatigue and restoring elasticity and resiliency
3. Stretches and helps free periarticular and articular adhesions and fibrotic infiltrations
4. Encourages expansion and contraction of disc tissues, thereby improving nutritional media

Contraindications

1. Local osseous infections, such as osteomyelitis, tuberculosis, etc.
2. Osteoporosis and/or osteomalacia
3. Osseous neoplasias
4. Severe cardiovascular and/or hypertensive disease
5. Localized vascular disease and/or tendency for hemorrhage in the area
6. Advanced cachexia
7. Pregnancy (in areas that may affect the gravid uterus)
8. Diseases of the spinal cord

Further contraindications to intermittent or alternating traction

1. Inflammatory and/or rheumatoid arthritis
2. Severe muscle spasms
3. Acute inflammations of musculoskeletal tissues, such as myofascitis, bursitis, tendonitis, etc.
4. Acute intervertebral disc syndrome

Physiological Effects of Ultraviolet Light and Contraindications

This chart is referring to ultraviolet light treatment and classifications of erythema produced by photochemical effect. However, this is different from the classification of burns due to thermal, rather than photochemical affect.

I. Local Erythemia

- A. A *sub-erythema dose* is one in which the radiation is insufficient to produce any visible reaction.
- B. *First Degree*: or a regenerative dose, commonly referred to as the minimal erythema dose, develops 4 to 6 hours after exposure. Its appearance is a barely perceptible redness which disappears within 24 hours. There is no exfoliation of the skin and pigmentation occurs only after repeated exposures.

- C. *Second Degree*: or therapeutic dose has latent period of 4 to 6 hours. it resembles a mild sunburn with some soreness which subsides in 3 to 4 days. Exfoliation is of a powdery nature which occurs after 1 to 3 weeks. There is definite pigmentation.
- D. *Third Degree*: or desquamative dose appears in about 2 hours. There is severe redness, edema and tenderness which lasts for several days. Exfoliation occurs in sheets or flakes. There is marked pigmentation.
- E. *Fourth Degree*: has characteristics identical with the third degree erythema except that a blister forms. Usually a destructive and/or bactericidal dose.

II. Pigmentation

A. Metabolic

- 1. Activation of vitamin D, sweat glands, hair follicles, and upper skin layers
- 2. Conversion of cholesterol to vitamin D via ultraviolet light

B. Muscle strength

- 1. Increase in red blood cells (greater oxygen-carrying capacity)
- 2. Improves tone, elasticity and secreting ability of skin
- 3. Accelerated physiological activity and raises overall metabolic rate

Contraindications

- 1. Active tuberculosis
- 2. Adrenal gland degeneration
- 3. Muscle-wasting diseases
- 4. Advanced cardiovascular disease
- 5. Kidney infection
- 6. Hyperthyroidism
- 7. Diabetes mellitus
- 8. Skin malignancies and/or precancerous lesions
- 9. Hemophilia or other diseases where hemorrhage is a constant threat

TABLE 7.10
Principal Indications for Radiant Heating

- 1. Subacute and chronic traumatic and inflammatory conditions in locations accessible to external heating, such as contusions, muscle strains, sprains, fractures, dislocations, traumatic synovitis, and tenosynovitis.
- 2. Arthritis, rheumatoid conditions, neuritis, and neuralgia; if the condition is acute, mild infrared radiation may be the only means of relieving pain without medication.
- 3. Acute, subacute, and chronic catarrhal conditions of the mucous membranes in accessible locations, such as bronchitis, sinusitis, etc.
- 4. Circulatory disturbances of the extremities, such as Raynaud's disease, thrombophlebitis, etc.
- 5. Skin infections such as folliculitis, furunculosis, and even extended abscess formation.
- 6. Radiant heating may be applied to "warm up" the tissues prior to other therapeutic measures. Massage, voluntary and passive exercise, and passive muscle exercise with low-frequency currents should always be preceded by the application of heat.

TABLE 7.11
Physiological Effects of Local Heat Application and Contraindications

Physiological effects

I. Local

- A. Dilates blood and lymphatic vessels
- B. Increases phagocytosis
- C. Increases perspiration
- D. Relieves muscle spasm and thus pain
- E. Reduces nervous system activity
- F. Dilates blood and lymphatic vessels in deep tissues depending on site of application

II. General

- A. Increases circulation and heart rate
- B. Lowers blood pressure
- C. Increases respiration
- D. Increases perspiration
- E. Increases urine formation with loss of water, salts, urea, and nitrogenous substances
- F. Causes slight rise in alkalinity

Contraindications to local heat application

- 1. Acute inflammatory process, particularly when accompanied by fever and/or suppuration
- 2. In conditions where there is a tendency to hemorrhage
- 3. Malignant tumors
- 4. Over the gravid uterus
- 5. Over encapsulated swellings where vasodilation may cause dispersion and/or rupture
- 6. Where there is a deficiency of thermal nerve reaction

TABLE 7.12
Physiological Effects of Ultrasound and Contraindications

- I. Mechanical
 - A. Increased molecular movements
 - B. Dispersion of fluids
 - C. Increased membrane permeability

These three actions provide for the reduction of swelling associated with trauma and infection by increasing the rate of fluid between cells.

- II. Thermal
 - A. Stimulation of the blood and lymph vessels
 - B. Increased glandular activity

These factors increase the rate of circulatory activity; in infectious conditions, additional germ-fighting white blood cells and antibodies are made available.

- III. Chemical
 - A. Increased gaseous exchange
 - B. Increased ionization through membranes
 - C. Increased chemical oxidation

The effects that ultrasound produces at the chemical level are the ones that let everything happen. It is here that energy transfer occurs so that toxic substances may be neutralized and irritation reduced.

Contraindications

- 1. Advanced heart disease
- 2. Over the stellate ganglion (a nervous-system relay center)
- 3. Vascular afflictions such as emboli, hemorrhage, etc.
- 4. Malignancies and/or precancerous lesions
- 5. Gonads
- 6. The gravid uterus
- 7. Pulmonary (lung) tuberculosis
- 8. Infections where dispersing and/or expansion is undesirable
- 9. Never over the eyes
- 10. In areas of sensory paralysis
- 11. Over an epiphysis (bone/cartilage junction where growth occurs)
- 12. Over any spinous process or bony prominence

TABLE 7.13
Physiological Effects of Galvanism, Indications, and Contraindications

Polar Effects

Positive

1. Attracts acids, repels alkalis, contracts tissues
2. Hardens tissue
3. Diminishes congestion/swelling
4. Relieves pain in acute (sudden) conditions due to reduction of congestion
5. Increases nerve irritability

Negative

1. Attracts alkalis, repels acids, dilates tissues
2. Softens tissue
3. Increases congestion/swelling
4. Relieves pain in chronic conditions due to softening of tissues and increase in circulation
5. Increases nerve irritability at low intensity, decreases it at high intensity

Indications

Galvanism is useful in a number of acute and chronic inflammatory conditions such as:

1. Selected cases of trauma, bruising, sprains, associated infection; to reduce swelling and relieve pain
2. Selected cases of arthritis and rheumatic conditions (against joint pain and swelling)
3. Circulatory disturbances of the brain, i.e., cerebral hemorrhage

Contraindications

1. Malignant neoplasms (established, dispersible cancer)
2. Sensory nerve damage (without feedback patient will not be made aware of any hazardous application)
3. Through the brain or heart with high intensities of current
4. Where stimulation may cause the spread of a dangerous, localized condition (tumor, etc.)

7.4.9 Contractile or Sinusoidal Currents

TABLE 7.14
Physiological Effects of Contractile or Sinusoidal Currents, Indications, and Contraindications

All contractile currents exercise, tone and massage muscle tissues, and secondarily tissues contained within them. Muscular stimulation elicits the following physiological responses:

1. Decongestion and detoxification
2. Hyperemia and hyper-lymphemia
3. Stretching of fibrotic tissues and/or adhesions

Simultaneously with its neuromuscular effects, the sinusoidal current stimulates all tissue cells in its bipolar path, causing hydrogen and hydroxyl concentration and perhaps helping cell nutrition.

Pertinent characteristics of individual current selections

1. Slow sinusoidal may be too slow to cause significant skeletal-muscle contractions, but more stimulating to smooth muscles.
2. Moderate, surging sinusoidal causes gradual contraction and relaxation of skeletal muscle.
3. Rapid or pulsating sinusoidal is particularly advantageous where there is partial degeneration, especially for lower motor neuron lesions.
4. Sustained or constant sinusoidal maintains muscle contraction. Eventually it may exhaust the contraction-producing capacity and induce muscle relaxation; therefore, of benefit in muscle spasms.

Contraindications

1. Never through the heart or with any technique that brings a considerable amount of current through the heart area
2. In conditions where hemorrhaging may occur
3. Over the menstruating or gravid uterus
4. With any condition where the muscle contractions produced may disperse or release a localized pathological process, such as an abscess
5. In a condition where the muscle contractions produced may disrupt a healing process, such as the consolidation of a hematoma

TABLE 7.15
Physiological and Therapeutic Effects of Hypothermy and Contraindications

I. Local

- A. Vasoconstriction and their consequent decrease in secretions
- B. Decreased capillary blood pressure, followed in 5 to 8 minutes by increased pressure and slowed pulse
- C. Vasoconstriction of internal organs due to nerve reflex
- D. Decreased perspiration and glandular activity
- E. Increased muscle tone
- F. Anesthetic to nervous system

II. General

- A. Decreased muscle fatigue
- B. Increased respiration
- C. Increased heart rate
- D. Lowered number of white blood cells

The above effects are primarily for short periods of local cold. If cold is prolonged, the vasoconstrictive mechanisms are fatigued and opposing factors prevail, producing:

- 1. Local vasodilation
- 2. Reflex internal vasodilation
- 3. Decreased heart rate and respiration
- 4. Increased blood pressure

Therapeutic effects

- 1. Local analgesic and anesthetic
- 2. Stabilizing agent in combating infections
- 3. A sedative in certain psychopathic cases
- 4. Retards cell growth in some malignant tumors

Contraindications

- 1. Neither local nor general cold should be applied to the elderly, infants, or weakened individuals, such as those with advanced cardiovascular disease, etc.
- 2. Do not apply when patient is cold and shivering

TABLE 7.16
Physiological Effects of Mechanical Support—Braces, Casts, Shoe Lifts, Etc.—And Contraindications

Physiological effects

1. Holds structures in a sustained position, therefore may promote healing
2. Relieves weight-bearing or motion stress on joints and osseous structures
3. Some, such as the shoe lift, allow for stretching and/or contraction of musculoskeletal tissue, encouraging structural alterations
4. Relieves muscular, tendinous and ligamentous stress from postural and/or motion efforts
5. As a by-product of the latter features, may relieve muscle spasm and pain
6. Shoe lifts and other supports may counter formational structural deficiency

Contraindications

1. Where immobilization may promote the organization of inflammatory coagulate and consequent adhesions and/or fibrotic infiltration (depending on stage and nature of condition)
2. Where immobilization may promote muscle atonicity, weakness and/or atrophy (depending on stage and nature of condition)
3. Where immobilization or a sustained position may promote unsatisfactory stretching and/or contractual changes (depending on stage and nature of condition)
4. Where immobilization may cause vascular stasis, congestion, or ischemia (depending on stage and nature of condition)

TABLE 7.17
Physiological Effects of Colon Irrigation and Enemas and Contraindications

Theorized physiological effects

1. Cleanses the colon of fecal matter
2. Stimulates peristalsis
3. Stimulates intestinal secretions
4. Diminishes toxin absorption
5. Relaxes intestinal spasms
6. Relieves excess flatus
7. Tones intestinal muscles
8. Cleanses of acquired or developmental irregularities and/or diverticula
9. Stretches and helps free adhesions, strictures, and fibrotic invasions
10. As a by-product of the latter features, relieves abdominal pain
11. Cool enemas reduce fever in some cases

Contraindications

1. Severe cardiovascular or other debilitating diseases
2. Abdominal arteriosclerosis, aneurysm, phlebitis, thrombosis, or conditions predisposing to hemorrhage
3. Gastrointestinal inflammations or degenerations characterized by loss of normal mucosal strength with tendency to perforation
4. Severe anemias
5. Exophthalmic goiter
6. Anal diseases where the insertion of the apparatus or pressures may be harmful, such as severe hemorrhoids, strictures, etc.
7. Gastrointestinal malignant neoplasias
8. Acute tuberculosis
9. Diabetic gangrene

ELEMENTS OF A STANDARD CHIROPRACTIC WORK-UP

The patient who consults a chiropractor is subjected to the following clinical procedures:

- I. Consultation (history)
 - A. General information/chief complaint
 - B. Present illness/injury
 - C. Review of symptoms
 - D. Personal history
 - E. Family history (especially orthopedic and neurologic disorders)
 - F. Occupational history
- II. Physical examination: general, then specific areas of complaint
 - A. Inspection
 - B. Palpation
 - C. Percussion
 - D. Auscultation
- IV. Laboratory examination (ordered or performed when clinically indicated)
 - A. Bioanalytical procedures
 - B. Physiological instrument procedures (biofeedback)
 - C. Behavioral testing procedures
- III. Spinal, Musculoskeletal, Orthopedic, and Neurological Examination
 - A. Mensuration
 - B. Range of motion

- C. Muscle testing
- D. Neurological status
- E. Special tests (biomechanical status)
- F. Roentgenologic procedures

The remainder of this chapter is intended as a practical guide for the chiropractor in executing the above.

1. *Head*: Headaches (duration, severity, character, location, etc.)
2. *Eyes*: Vision, diplopia, inflammatory disease
3. *Ears*: Hearing, earache, discharge, tinnitus
4. *Nose, throat, and mouth*: Tonsillitis, quinsy, glossitis
5. *Respiratory*: cough, expectoration, hemoptysis, pleurisy, date of recent chest X-ray, asthma
6. *Cardiovascular*: dyspnea, orthopnea, substernal pain, palpitation, leg cramps, edema
7. *Gastrointestinal*: loss of appetite, distress before or after meals, foods craved, foods avoided, nausea, vomiting, hematemesis, melena, diarrhea, constipation, laxatives, color of stools, change in forms of stools, jaundice, abdominal pain or colic
8. *Genitourinary*: frequency, nocturia, pain or burning on urination, hematuria, incontinence, dribbling, difficulty in starting stream, change in size or force of stream
9. *Menstrual*: date of onset, interval, regularity, duration, amount of flow, date of last period, menorrhagia, irregular bleeding, menopause, number of pregnancies, abortions or miscarriages, complications
10. *Metabolic*: normal weight, gain, or loss
11. *Neuromuscular*: vertigo, paralysis, weakness in extremity, paresthesias (numbness or tingling, syncope)
12. *Neuropsychiatric*: emotional stability or instability, history of nervous breakdown, environmental stress, memory defects

8.1.4 Family History (Especially Orthopedic and Neurological Disorders)

Have there been any deaths in your immediate family (father, mother, brothers, sisters)? If so, give the cause _____

For those liberal, progressive practitioners who strive to perform general physical examinations on the same clinical basis as do medical physicians, the following is a standard procedural guide.¹

8.2 Physical Examination: General, then Specific Areas of Complaint

1. *Vital signs*: Weight, height, temperature, pulse, respiration, blood pressure
2. *General inspection*:
 - a. Posture
 - b. Physique, constitution, nutritional state
 - c. Severity and acuteness of illness
 - d. Emotional state in reaction to illness
3. *Skin*: Complexion, texture, turgor, pigmentation, eruption, lesions

4. *Head*: Skull and scalp: configuration, scars
5. *Eye*:
 - a. Lids: Edema, ptosis, width of palpebral fissures
 - b. Sclera: Jaundice, hemorrhage
 - c. Conjunctival: pallor, injection, petechiae
 - d. Cornea: Scars, ulceration, arcus senilis
 - e. Pupils: Size, shape, equality, reaction to light and accommodation
 - f. Vision: Acuity, visual fields by confrontation
 - g. Ophthalmoscopic: Optic disks, vessels, exudate, hemorrhage
6. *Ears*:
 - a. External: Tophi
 - b. Internal: Otoscopic examination, drum
 - c. Auditory acuity
7. *Nose*: Shape, septum deviation or perforation, turbinates, congestion, discharge, polyps
8. *Mouth and throat*:
 - a. Lips: Symmetry, cyanosis, cheilitis, herpes
 - b. Pharynx and tonsils
 - c. Mucous Membrane and gingiva: Pallor, ulceration, pigmentation
 - d. Tongue: Color, papillary atrophy, ulceration, deviation
 - e. Teeth: Cavities, missing teeth, dental repair
9. *Neck*:
 - a. Blood vessels: Engorgement of veins, abnormal pulsations, scars
 - b. Thyroid: Enlarged, nodular, bruit
 - c. Trachea: Position, midline or deviated, tracheal tug
 - d. Lymph nodes: Anterior and posterior cervical, pre- and post-auricular, supraclavicular
10. *Chest and lungs*:
 - a. General inspection: Contour, symmetry, expansion, equality of expansion, rate and rhythm
 - b. Palpation: Tactile fremitus
 - c. Percussion: Krönig's isthmus—compare symmetrical areas
 - d. Auscultation: Character and intensity of breathing, relative duration of inspiration and expiration, rales, friction rub
 - e. Diaphragm: Level and excursion.
11. *Heart*:
 - a. Inspection: Point of maximal impulse, abnormal pulsations
 - b. Palpation: Point of maximal impulse, thrill, pulse rate, rhythm, volume, vessel wall
 - c. Percussion: Retromanubria dullness, right and left borders of heart
 - d. Auscultation: Heart sounds—intensity, 1st, A₂, P₂
 - e. Character of cardiac rhythm: Murmur—location, where loudest, duration, systolic or diastolic, effort of position change
12. *Breasts*: Symmetry, nipple, ulceration, secretion, pigmentation, areola tenderness, masses, axillary lymph nodes
13. *Abdomen*:
 - a. Inspection: Contour, scars, dilated veins, peristalsis

- b. Palpation: Distention, rigidity, tenderness, masses; liver, spleen, or other dullness
 - c. Hernia: Femoral, inguinal
 - d. Lymph nodes: Inguinal
14. *Genitalia:*
- a. Male: Discharge, penile lesions or scars, hydrocele, testicular atrophy or masses
 - b. Female: Inspection of external genitalia, pelvic examination, inspection of perineum and cervix, bimanual examination of uterus and adnexa
15. *Extremities:*
- a. Upper: Hands—color of palms, moisture, clubbing of fingers, cyanosis of nails, joint swelling or deformity, shoulder, elbow
 - b. Lower: Mobility or deformity of joints, color and temperature of feet, posterior tibial and dorsalis pedis, arterial pulsation, edema, varicose veins
16. *Back and spine:* Mobility, curvature, vertebral tenderness to percussion
17. *Nervous system:*
- a. Deep tendon reflexes: Biceps, triceps, radialis, patellar, Achilles, Babinski
 - b. Cranial nerves: Recheck when indicated
 - c. Sensory examination: When indicated
18. *Rectum:* Sphincter tone, hemorrhoids, fissure, fistulae, masses, prostate

8.3 Roentgenological Procedures

8.3.1 Proper Identification of X-Rays

The law requires that each X-ray plate be labeled with the chiropractor's name and address, the patient's name, his sex, his age, and *R* or *L* (right or left side). Some practitioners use only a serial number, with a log book giving the particulars. This is not recommended. The most efficient system is to imprint data photographically on the film immediately after exposure. It is also helpful to use a marker directly on the film identifying it as having been taken with the patient in the upright or recumbent position. In the recumbent or prone position the patient can be lying obliquely on his left or right side, or the film can be taken in a straight lateral position. Anterior to posterior views (*A to P*) means the X-ray beam strikes the anterior body first; *P to A* means the exact opposite. All other projections are named for the surface next to the film. Lateral projections then should be marked *L* or *R* according to the surface next to the film. Oblique projections should be marked *LPO* and *RPO* or *LAO* and *RAO*, designating left or right and anterior or posterior surface. Labels should designate all special positions or views, such as *flexion*, *extension*, *internal rotation*, *external rotation*, *axial*, *vertex*, *caudad*, and *cephalic*.

CINERADIOGRAPHY (CINE)

In cases of persistent symptoms associated with a spinal syndrome the chiropractor may arrange to have x-ray motion studies performed to more definitely determine the aberrant motor units responsible and to serve as a guide for further treatment or referral. The cineradiography film, somewhat like a fluoroscopic picture of the stomach in action can show the movement of individual vertebrae in relation to each other and one region of the spine in relation to the whole.

8.3.3 Precautions Concerning Attempted Diagnosis of Pathologies from X-Ray

An increasing number of lawsuits involving charges of misdiagnosis and consequent wrong therapy are likely as certain segments of the chiropractic profession perform general radiographic analysis to diagnose types of soft-tissue and bone pathology without adequate training. Conservatives usually attempt only to analyze spinal alignment, categorize vertebrae by level and degree of subluxation, and determine if osseous structures appear normal or abnormal. Liberals have gone much further toward the practice of general medical radiology. They have organized 300-hour courses, described in Chapter 2, leading to a postgraduate designation of chiropractic roentgenologist. These chiropractic X-ray specialists attempt to compete in various ways with medical radiologists who have had at least a full four-year postgraduate program in radiology. Obviously, it is impossible to become proficient in analyzing various pathologies on radiograms in six, eight, or 300 hours. It is too easy for the chiropractor, as radiologist, to not recognize diseases whose untreated progression could result in the death or disability of the patient.

8.3.4 Irradiation of Children and Pregnant Women

Another concern regarding chiropractic radiology is the X-raying of children and of women during the reproductive years. Extreme care must be taken with the latter. There is no scientific rationale for X-raying the spines of babies and children to search for subluxations; however, some chiropractors X-ray newborn infants. Because there is little or no available chiropractic literature on this topic, the author queried several accredited chiropractic educators on the X-raying of children and exposure of women during pregnancy. Excerpts of some of their replies follow:

1.

In brief, it is recommended by [a] HEW publication² that radiographic examinations of pregnant women should not be done unless there is a significant clinical need. . . . It is always recommended in pregnancy that the fetus be shielded and not be in the direct rays unless that is absolutely necessary and that techniques be those which will produce a minimal of absorbed dose. A fetus which has been irradiated has a much higher incidence of neoplasm and other problems than in non-irradiated fetuses. Of course, irradiation in the first trimester of pregnancy is the most dangerous since that is the time of organogenesis and the risk to the fetus diminishes thereafter but it should be avoided whenever possible. There must be clinical need before exposure to ionizing radiation; the diagnostic yield of examination should be of greater importance than the possible detrimental effects which the ionizing radiation could have upon the individual and/or his diagonal heard progeny. Optimum quality radiographs should be obtained, the number being sufficient to fulfill the diagnostic objectives, and proper radiation protection procedures should be used, such as collimation to the area of interest, sufficient filtration to take the low energy photons out of the beam to as much degree as is reasonable, use of optimum film-screen combinations, proper processing of films and use of gonad shields where applicable.³

2.

Our recommendations for both the field practitioners and students is that the indications for radiographic examination of any individual should outweigh the contraindications during any period of life including childhood and pregnancy. Radiographic examination of pregnant women should be done only during an emergency situation and with the patient fully draped with protective lead coverings.⁴

3.

As to how early children may be x-rayed, the answer is when you feel it is clinically indicated. Of course, we try [to] limit their exposure, but by the same token to deny a patient of radiographs



Figure 8.1
Testing of upper spinal reflexes. An integral part of a proper chiropractic physical examination.



Figure 8.2
Testing (grading) the muscle strength of the lower extremities.



Figure 8.3
Muscle testing (grading) of the upper extremities.

when they may shed some light on a diagnosis is an equally serious omission. One must rely upon their years of practice so that the patient may obtain a full service.⁵

4.

Regards to your requests for information regarding the taking of x-rays during pregnancy and early in the life of children, we have found practically nothing in the literature regarding the matter that is new. The general rule of thumb is still not to x-ray pregnant females unless absolutely necessary. In regards to x-raying of children, again, no x-rays should be taken unless there is definite clinical indication for the need of those x-rays. Then, of course, if x-rays are indicated, the proper views should and must be taken.

Your request did prompt me to investigate radiation tolerance of the fetus. I was able to discover that a uterine dose of less than 20 rads. is usually considered not to be harmful to the first trimester of pregnancy. Therefore, since the typical radiographic exam of the lumbar spine probably involves less than 1 rad., accidental irradiation of a female who does not realize she is in the first trimester of pregnancy is probably not harmful to the fetus. However, it is still the Doctor's responsibility to avoid irradiating such patients.⁶

5.

X-rays of the pelvis and abdomen should not be taken during pregnancy unless it is a life threatening situation. Radiographs of body parts close to the pelvis and abdomen may be done with appropriate shielding of the pelvis and abdomen. . . . X-rays of children should be taken when clinically indicated and exposure levels must be kept as low as possible.⁷

6.

All radiation to the maternal pelvis is definitely contraindicated and especially during the first trimester unless a life threatening situation for the mother is documented.⁸

A 1978 article that appeared in the *Journal of the American Medical Association* contains some valuable guidelines:

1. Assume a woman in the reproductive years is pregnant unless proved otherwise. Acceptable proofs that she is not pregnant are the following: onset of menses in the last ten days; taking oral contraceptives; having an intrauterine device or having surgical sterilization.
2. If a woman may be in the first trimester of pregnancy, avoid inclusion of the pelvis in the primary x-ray beam if at all possible.
3. Where feasible, always shield the pelvis and abdomen of women when performing diagnostic roentgenographic studies.
4. If there is a valid medical indication to perform a diagnostic study using radiation on a pregnant woman, this will generally outweigh the remote possibility of harm to the patient or her fetus.
5. If a woman receives a relatively large amount of radiation (5 to 15 rads) to the pelvis in the first trimester of pregnancy, the increased risk of a congenital anomaly of the fetus is from 1% to 3%. Such a risk may justify therapeutic abortion. On the other hand, if the parents are psychologically able to handle the slight increased risk of a malformed child, one can recommend that the pregnancy continue.⁹

Chiropractors who use radiology clearly have the responsibility to determine whether the woman patient is pregnant. If she is, the practitioner must explain to her the possible risk of fetal damage. This author believes that the common repeated irradiation of children and young adults to check the progress of spinal alignment is unnecessary and possibly dangerous.

8.4 Examination

Laboratory procedures routinely performed in a chiropractor's office could include analyzing urine samples, preliminary blood analysis, plesmography, thermography, and biofeedback evaluation. There are a multitude of others, many performed only by their inventors and a few followers, which could be considered legitimate laboratory procedures. Some have been discussed under auxiliary examination procedures (see page xxx). Whether chiropractors are educationally equipped to use laboratory techniques and other medical procedures to aid in diagnosis has long been the subject of controversy. The techniques chiropractors are legally permitted to perform vary from state to state.

8.4.1 Blood and Urine Tests

These are often done as screening tests for active bone pathology or visceral disorders.

8.4.2 Infrared Thermography

The clinical application of infrared scanning devices, which produce a pictorial recording or map of the temperature pattern over a body area, is based on observations by Lawson that the skin over a malignant breast tumor is frequently 1 to 3° hotter than surrounding skin. Chiropractors have been using skin-temperature recording devices to search for areas of "nerve interference" in the spine since the late 1920s or early '30s. The theory promulgated by B. J. Palmer and others was that subluxated spinal segments created a differential skin-surface temperature from one side of the spine or spinal level to the other(s). There is no scientific proof that skin-temperature differentials represent underlying bony subluxations, but the theory and practice have been widely accepted within the chiropractic profession as a standard part of spinal analysis. Most of the wide variety of thermographic devices chiropractors employ today are quite similar to the basic two-pronged, heat-sensitive device developed by Palmer.

Medical uses of thermographic diagnosis include clinical evaluation of cancer, vascular disease, nerve problems, and orthopedic and musculo-ligamentous injuries related to the spine. Theoretically the thermogram records the hyperemia of the local tissue insult. Investigators disagree as to what constitutes a normal thermogram, but data are being accumulated that could also prove valuable to chiropractors in proving a relationship between structural-spinal balance and nerve problems.

8.4.3 Plesmography

Plesmography involves the use of various devices, such as the bi-directional Doppler machine; the ultrasonic Doppler arteriograph; the pulse-volume recorder and the Doppler scanner to measure blood flow and overall condition of peripheral blood vessels. These instruments are 85 to 95 percent effective in identifying peripheral vascular problems. Chiropractors use them to differentiate vascular conditions from nerve root syndromes.

8.4.4 Biofeedback

Biofeedback uses specialized instrumentation to monitor autonomic activities, such as muscle tension, skin-surface temperature, brain-wave activity, galvanic skin response, and heart rate, and displays this information to the individual experiencing them. It is used very effectively to teach people to exert

voluntary control over their internal body processes. The process also supplies information that guides the clinician in planning treatment where radical therapy is not required.

Instruments and techniques employed in biofeedback may be as simple as a thermometer or as sophisticated as an electroencephalograph. The method most familiar to chiropractors would probably be the measurement of muscle electrical activity with skin sensors (electromyography or EMG). Electromyography is often used to teach muscle relaxation to victims of stroke, cerebral palsy, temporomandibular-joint pain, bruxism, and other muscle-tension syndromes.

8.5 Standard Procedures and Instruments for Chiropractic Examination

8.5.1 Dual-Scales Postural Evaluation

To determine if the patient is distributing his weight evenly through both lower extremities, two bathroom scales, set side by side, are employed. The patient simultaneously places one foot on each scale, and the weight distribution can be read immediately. Weight distribution imbalance can indicate scoliosis, spinal subluxations and certain types of back curvature related to developmental irregularities, such as anatomical leg-length deficiency or a true osseous pelvic imbalance.

8.5.2 Motion Palpation of Spinal Joint Function

Practitioners of this method attempt to locate or determine the direction of misalignment of a particular spinal segment by putting it through its complete range of motion. The chiropractor puts the joint through circumduction; that is, anterior-flexion and posterior-extension rotation around a central axis and lateral flexion around a horizontal axis. Proponents claim that moving the vertebral segment in these three planes can tell them if vertebrae are subluxated or “fixed” and in what position.

8.5.3 Posture Analysis Photo Grid

For this technique of establishing the existence of suspected postural deviations, the patient is photographed undressed in front of a wall-mounted plexiglass plate that has been divided into sections by several horizontal lines and bisected by a straight vertical line. In the photograph, the visual alignment of the spine is compared to the center, vertical line. If the spine deviates from the line, scoliosis, back curvature, or spinal subluxations are suspected. One variation of this method, the symmetrigrاف, employs a similar plexiglass plate and a posture chart for recording the position of the head, shoulders, and hips relative to grid lines.

8.5.4 Posturometers, Scoliometers, and Plumb-Line Devices

To determine the degree the spine is off-center, chiropractic uses many devices that require the patient to stand in an erect position. Then he compares the spine to a standard vertical line. A suspended string may be used; or a hand-held device that compares the relative position of head, shoulders, and hips with a known horizontal such as a platform or the floor of the examination room.

8.5.5 Magnimensurator

This new device, which produces a panoramic magnification of the X-ray objective field, was developed by Phillip E. George, D.C., professor at the Palmer College of Chiropractic. According to an advertisement, the hand-held instrument can assist the practitioner in precisely evaluating osseous disrelation of spinal segments and spinal-joint instabilities. The developer states, “While viewing the x-ray, one can align the grid vertically over the area to be measured then reading directly off of the recticle, record

one's distance of misalignment. . . .¹⁰ The magnimensurator is designed with a millimeter grid scale and a 360 degree-circumferential scale to allow precise measurement of the objective field.

8.5.6 Infrared Dynamic Thermography System

This hand-held instrument is used to measure skin temperature over individual vertebral segments to help identify underlying spinal subluxations. Its range is 80 to 105 degrees Fahrenheit. According to the manufacturer:

The Ortho-Therm Infrared Dynamic Thermography System accurately measures the skin surface temperature noninvasively. Infrared radiation from the skin is sensed by a solid-state detector, and the temperature appears immediately on a large, easy-to-view liquid crystal digital display. There are no mirrors to fog or mechanical linkages to recalibrate.

8.5.7 Thermoscribe

This device consists of a hand-held component containing a thermocouple and two pronged apparatuses that the practitioner moves up the spine to detect skin-surface temperature. An accompanying unit graphs temperature variations from one side of the spine to the other and from one vertebral level to another. Subsequent readings are compared to the originals to ascertain the effectiveness of vertebral adjustments.

8.5.8 Dynamometer

This orthodox medical device is used to determine if the patient is experiencing weakness in the muscles of the upper extremities. The patient is asked to grasp and squeeze a spring-loaded gauge that approximately measures pounds exerted. The average difference between primary and secondary hand is 15 to 25 lbs. for men and 5 to 15 for women. A marked variation from these averages or a declining scale of one hand can indicate a neuromuscular problem.

8.5.9 Whartenburg Pinwheel

This medical instrument is employed to evaluate peripheral sensitivity, which is important to check in neurological/spinal complaints.

8.5.10 Goniometer or Arthrodial Protractor

This simple device is designed to assess joint motion. Usually it is made of clear plastic with degrees from zero to 90 marked off in increments of ten.

8.5.11 Reflex Hammer

Deep-tendon reflexes of the upper and lower extremities are tested with this rubber-tipped hammer.

8.5.12 Sphygmomanometer

A sphygmomanometer is used to measure arterial blood pressure. Often readings are taken on both arms, as a difference in blood pressure from one side to the other may indicate an upper-extremity neurovascular syndrome.

8.5.13 Cervigon and Cervigon MK II

The Cervigon is basically a large protractor with a chin-guiding device to approximately measure range of cervical motion in all directions. The Cervigon MK II, more sophisticated and accurate, fits on the patient's head like a helmet, and a protractor device with a balanced needle indicates degrees of motion as the neck is put through the six ranges of motion.

8.5.14 Electromyography (EMG)

This medical test is often ordered by chiropractors as part of their diagnostic work-up. The EMG uses electrodes to record the electrical potentials of a muscle at rest and during contraction. Each electrode usually consists of a fine wire within a 24-gauge hollow needle. Electromyography is useful in detecting three classes of disorders: disease involving the lower motor neuron from the anterior horn cell to the neuromuscular junction, defects in transmission at the neuromuscular junction, and primary muscle disease (for its role in biofeedback see page xxx).

8.6 Clinical Impression or Working Diagnosis

The working diagnosis is the result of careful correlation of all data from the history; physical, orthopedic, and neurological examinations; and laboratory and radiographic studies. It is a guide for selecting and administering treatment or referring. This initial impression, of course, may change as additional information such as special tests or patient response is obtained.

8.7 Referral for Medical Care

The chiropractor is ethically and legally obligated to refer any patient who requires treatment he is not qualified and/or permitted to administer. A proper standard of chiropractic referral involves a clinical work-up equivalent to that performed by any primary health care provider. Informed consent dictates that the patient must be allowed to participate in all referral decisions.

8.8 Chiropractic Treatment Records

Chiropractic records must be carefully recorded and legible to be proper, useful, and protective of both patient and practitioner. They should completely document the course of treatment. Sloppy, undated, or incomplete notes may be conducive to and evidence of chiropractic malpractice.

8.9 Preventative Chiropractic Care

Long-term health care should be no small part of a chiropractor's goal. It is incumbent upon every practitioner to help his patients minimize routine internal and external stresses that might eventually contribute to a future breakdown in spinal integrity. Rehabilitation and preventative medicine are vital, standard policies. Their omission constitutes a violation of the chiropractor's legal and ethical responsibility to provide proper care.

The chiropractor should impart basic knowledge. He should question his patients concerning their lifestyle, and outline good health habits with an emphasis on spinal hygiene. He should ferret out and correct misconceptions (often formulated from inaccurate or misleading information in lay publications) about proper spinal care and prevention of subluxations. Finally, he should demonstrate follow-up home procedures after in-office subluxation correction. His instructions should be clear, specific, and preferably written.

8.9.1 Lifting Procedures

With proper, basic body-object positioning, chances of excessive strain and injury while lifting can be significantly reduced.

8.9.2 Sleeping Surface

Physical rejuvenation through sleep on a properly supportive surface minimizes stress and makes one less prone to accidents.

8.9.3 Weight

Excessive weight hampers joint movement and puts unnecessary, harmful stress on joint ligaments. Obesity increases the likelihood of subluxations and other joint problems as well as varicose veins and foot and heart ailments.

8.9.4 Stress

If stress is not released through constructive mental and physical processes, it is "stored" by the muscles, which may create joint and whole-body degenerative problems. Patients must be made aware of the subtle dangers of unexpressed tension and instructed on pressure-easing techniques such as physical exercise.

8.9.5 Joint flexibility and muscle toning

Even if his work is arduous or physically demanding, a patient probably does not get the type or amount of exercise necessary to stay healthy or to maintain joint flexibility or muscle tone needed to perform well under daily stress. His personality and lifestyle also figure in his fitness requirements.

8.9.6 Diet

Muscles, tendons, and ligaments weakened by nutritional deprivation cannot support the body's osseous framework in proper alignment. With fad diets, overeating, and the indifference or ignorance of many patients to balanced nutritional intake, the practitioner is often called upon to suggest a regimen containing the necessary protein, vitamins, minerals, fats, and carbohydrates for body maintenance.

SYNOVIAL MEMBRANE DAMAGE AND ARTHROSIS DUE TO EXCESSIVE ADJUSTING

Certain schools of thought within chiropractic advocate long-term, multiple adjusting regimen to clear the spine of all minor misalignments or subluxations. Adjustments are administered on a regular basis, often four to five per week over several months. A few studies have outlined the adverse effects of such an adjusting program. The trauma it represents elicits an inflammatory reaction. In joints, the synovial membrane is concerned with secretion and absorption of synovial joint fluid; persistent inflammation can result in scar-tissue formation and permanent hyperplasia of the joint membrane.

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8.1 Consultation (History)

8.1.1 General Information/Chief Complaint

Name_____Date_____

Address_____Phone_____

Employer's address_____Phone_____

Social Security no._____Marital Status_____

Age_____Sex_____No. dependents_____

Occupation_____

Main physical activities, i.e., gardening, sports, any manual labor, etc.:

Insurance company_____Policy number_____Type_____

Are you a dependent?_____

Name of insured_____

Chief complaint (patient's own words)_____

Duration_____

Method and time of onset_____

8.1.2 Present Illness/Injury, Review of Symptoms

Symptoms_____

Any prior to illness or injury: No_____ Yes_____ Explanation_____

Date of illness or injury_____ Time_____ Location_____

How injury occurred_____

What patient was doing_____

Other doctors seen for this condition_____

Diagnosis_____

Type of treatment_____

Results_____

Hospitalized: No_____ Yes_____ Where_____

Admitted_____ Discharged_____

Results_____

Have you lost any days of work?_____ Dates_____

Total disability: From_____ To_____

Partial disability: From_____ To_____

Have you had similar accidents or injuries before?_____

Explain_____

Since injury symptoms: Improving_____ Same_____ Getting worse_____

Have you been involved in any accidents in the last year?_____ (yes or no)

Describe_____

Give date, time, and how sustained: Date_____ Time_____

At home_____ At work_____ Auto_____ Other_____

Explanation_____

List all present doctor's care, treatment drugs, medications, vitamins, shots, back braces, shoe supports, etc. _____

Have you been treated for any health condition by a physician in the last year? _____

Describe _____

What operations have you had? (state when) _____

Have you been X-rayed before? _____ How many times? _____ When? _____

What region(s) of body? _____

Did you ever receive X-ray (radium, cobalt) treatments? _____

For what? _____ When? _____

Female only: Is there a possibility that you are pregnant? _____

8.1.3 Personal History

Surgery and hospitalizations _____

Serious illness _____

Injuries _____

Has the patient ever suffered or does he now suffered from the following:

Chickenpox	()	Tuberculosis	()
Scarlet fever	()	Diphtheria	()
Rheumatic fever	()	Pneumonia	()
Whooping cough	()	Typhoid	()
Influenza	()	Tonsilitis	()
Measles	()	Malaria	()
Mumps	()	Gonorrhea	()
Polio	()	Hives	()

GASTROINTESTINAL

- _____ Constipation
- _____ Diarrhea
- _____ Digestive problems
- _____ Stomach pain
- _____ Vomiting of blood
- _____ Gall bladder trouble
- _____ Hemorrhoids
- _____ Liver trouble

SKIN

- _____ Burning
- _____ Boils
- _____ Dryness

CARDIOVASCULAR

- _____ High blood pressure
- _____ Low blood pressure
- _____ Previous heart trouble
- _____ Previous stroke

FOR WOMEN ONLY

- _____ Cramps, backache
- _____ Excessive flow
- _____ Hot flashes
- _____ Irregular cycles
- _____ Painful intercourse
- _____ Painful menstruation
- _____ Vaginal discharge

GENITOURINARY

- _____ Frequent urination
- _____ Painful urination
- _____ Difficulty in starting urine
- _____ Inability to control urine
- _____ Blood in urine
- _____ Bed wetting
- _____ Kidney infection
- _____ Prostate trouble

MUSCLES AND JOINTS

- _____ Foot problems
- _____ Swollen joints
- _____ Hernia

RESPIRATORY

- _____ Chest pains
- _____ Chronic cough
- _____ Difficulty breathing
- _____ Frequent colds
- _____ Spitting of blood
- _____ Allergies

EYES, EARS, NOSE

- _____ Eye pains
- _____ Ear discharge
- _____ Nasal discharge
- _____ Sinus trouble
- _____ Hoarseness

Date of last

GENERAL

_____ Weight Loss

_____ Nervousness

_____ Emotional problems

Date of last

physical exam_____

eye exam_____

_____ Earaches

_____ Ringing ears

_____ Nosebleeds

_____ Difficulty swallowing

_____ Asthma

_____ Hayfever

8.1.5 Occupational History

Present occupation_____ How long employed_____

Previous occupation_____ How long employed_____

Occupational requirements: Sit_____ Get up and down_____ Lift_____

Weight_____ Help_____ Neck flexion_____ Extension_____ Lateral flexion_____

Rotation_____ Trunk flexion_____ Extension_____ Lateral flexion_____

Rotation_____ Shoulder usage_____ Elbows_____ Wrists_____

Fingers_____ Hips_____ Knees_____ Ankles_____ Feet_____

8.3 Spinal, Musculoskeletal, Orthopedic, and Neurological Examination

PATIENT STANDING

GENERAL APPEARANCE:

Well nourished _____ Robust _____ Debilitated _____

Weight _____ Height _____ Appears age _____ Is older _____

General posture _____

Gait:

Antalgic position: Neg. _____ Pos. _____ Explain _____

Ambulation: Normal _____ Impaired _____ Difficult _____

Needs aid: Neg. _____ Pos. _____ What? _____

MEASUREMENT OF EXTREMITIES:

(Measure four inches below center of joints)

	RIGHT (R.)	LEFT (L.)
Arm length -----	()	()
Mid-biceps circum. -----	()	()
Mid-forearm circum. -----	()	()

Position of head _____

Level of shoulders: Equal _____

If abnormal curvature, degree _____

Areas of tenderness _____

Areas of muscle spasm _____

Disfigurations _____

Cervical Range of motion:

Flexion _____/30 Extension _____/30 R. Let. Flex. _____/40 L. Lat. Flex _____/40

R. Rot. _____/30 L. Rot. _____/30

Foramina Compression: Neg. _____ Pos. _____ R. _____ L. _____

Costoclavicular syndrome _____

Hyperabduction syndrome _____

Adson's test: Neg. _____ Pos. _____ R. _____ L. _____

Biceps reflex: Normal _____ Absent _____ Exaggerated _____ R. _____ L. _____

Radial reflex _____

Wrist clonus _____

Triceps reflex: Normal_____ Absent_____ Exaggerated_____ R._____ L._____

Sensory: Neg._____ Hyper_____ Anesthesia_____ Paresthesia_____

Dermatomes_____ R._____ L._____

Chest expansion: Inspiration_____ Expiration_____

Kemp's sign_____

Jugular compression test_____

Cough test_____

Areas of tenderness_____

Areas of muscle spasm_____

Disfigurations_____

Trunk Rotators: Grade 2_____ (If positive, check 5, 4, or 3, if negative check 1 or 0)

Patellar reflex: Normal_____ Absent_____ Exaggerated_____ R._____ L._____

CRANIAL NERVE REFLEXES

	NEG.	POS.
1 -----Smell -----()	()
2 -----Accommodation and light -----()	()
3-4-6 -----Eye movements -----()	()
5 -----Sensation and wink -----()	()
7 -----Smile, taste, tongue -----()	()
8 -----Whisper -----()	()
9 -----Gag reflex and taste -----()	()
10 -----Voice, swallow -----()	()
11 -----Shoulder shrug -----()	()
12 -----Tongue movements -----()	()

DYNAMOMETER TEST:

	Right-Handed ()	Left-Handed ()
Right hand:----	1st try _____lbs	Left hand:----1st try _____lbs
	2nd try _____lbs	2nd try _____lbs
	3rd try _____lbs	3rd try _____lbs

PATIENT STANDING

POSTURE ANALYSIS:

	LEFT	NORMAL	RIGHT
Head tilt -----	()	()	()
One ear higher -----	()	()	()
Cervical curvature -----	()	()	()
Cervical muscle tension -----	()	()	()
One shoulder higher -----	()	()	()
Thoracic curvature -----	()	()	()
Thoracic muscle tension -----	()	()	()
Lumbar curvature -----	()	()	()
Lumbar muscle tension -----	()	()	()
Ilium high on -----	()	()	()

Level of:

Gluteal folds: Equal _____ R. _____ L. _____ Higher _____

Scapulae: Equal _____ R. _____ L. _____ Higher _____

Abnormal curvature: Degree _____ Type _____

Dorsolumbar range of motion:

Flexion _____/90 Extension _____/30 R. Lat. Flex. _____/20

R. Lat. Flex. _____/20 R. Rot. _____/30 L. Rot. _____/30

Pelvic elevators: Grade 3 _____ (if positive check 5 and 4, if negative, 2, 1, or 0)

Trendelenburg: Neg. _____ Pos. _____ R. _____ L. _____

SPINAL DISTORTION:

	LUMBAR	THORACIC	CERVICAL
Scoliosis-----	R.() L.()	R.() L.()	R.() L.()
Kyphosis-----	R.() L.()	R.() L.()	R.() L.()
Lordosis-----	R.() L.()	R.() L.()	R.() L.()

Adams's test _____

Romberg's sign _____

PATIENT SUPINE

Measurement of legs: R.A. _____ L.A. _____ R.U. _____ L.U. _____

Mid-thigh circumference: L. _____ R. _____

Mid-calf circumference: L. _____ R. _____

Trunk flexors: Grade 5 _____ 4 _____ 3 _____ 2 _____ 1 _____ 0 _____

Trunk rotators: Grade 5 _____ 4 _____ 3 _____ 2 _____ 1 _____ 0 _____ R. _____ L. _____

Pelvic elevators: Grade 5 _____ 4 _____ 3 _____ 2 _____ 1 _____ 0 _____ R. _____ L. _____

Lasègue's sign: Neg. _____ Pos. _____ R. _____ L. _____

Bragard sign: Neg. _____ Pos. _____ R. _____ L. _____

Lowering extended extremities: Neg. _____ Pos. _____ R. _____ L. _____

Fabere sign (Patrick's test): Neg. _____ Pos. _____ R. _____ L. _____

Thomas's sign: Neg. _____ Pos. _____ R. _____ L. _____

Sensory: Neg. _____ Hyper. _____ Hypo. _____ Ana. _____ Para. _____

Dermatomes _____ R. _____ L. _____

Dorsiflexion of big toe: Grade 5 _____ 4 _____ 3 _____ 2 _____ 1 _____ 0 _____ R. _____ L. _____

Neck flexors: Grade 5 _____ 4 _____ 3 _____ 1 _____ 0 _____

Neck rotators: Grade 5 _____ 4 _____ 3 _____ R. _____ L. _____

Cremasteric L1

Umbilical: _____

Upper T7-8-9-10-----NORM. () DIM. () HYPER. () ABSENT ()

Lower T10-11-12-L1 () () () ()

COLONUS: NEGATIVE POSITIVE

Ankle-----R.() L.() R.() L.()

Patellar-----R.() L.() R.() L.()

DORSALIS:

PEDIS

Pulse-----R.() L.() R.() L.()

FOOT PAIN:

Inversion -----R.() L.() R.() L.()

Eversion -----R.() L.() R.() L.()

PATIENT PRONE

Areas of muscle spasm _____
Trunk extensors: Grade 5 _____ 4 _____ 3 _____ 2 _____ 1 _____ 0 _____
Nachlas: Neg. _____ Pos. _____ R. _____ L. _____
Achilles reflex: Normal _____ Absent _____ Exaggerated _____ R. _____ L. _____
Babinski's sign: Neg. _____ Pos. _____ R. _____ L. _____
Anal reflex: S4-5 _____
Neck extensors: Grade 5 _____ 4 _____ 3 _____ 1 _____ 0 _____

PATIENT LYING ON SIDE

Gaenslen's sign: Neg. _____ Pos. _____ R. S.I. _____ L. S.I. _____
(Omit if Nachlas positive for lumbosacral)
Ober's sign: Neg. _____ Pos. _____ R. _____ L. _____
Neck flexors: Grade 2 _____ Neck extensors: Grade 2 _____
(Omit if above grade 5, 4, or 3)

ADDITIONAL JOINT MOTION MEASUREMENT:

If the chiropractor is attempting to treat an extremity or to assess a joint for a permanent, partial-disability rating, an evaluation of joint motion in degrees is required.

MOTION OF EXTREMITIES

	<i>RIGHT</i>	<i>LEFT</i>	
Shoulder:			
Flexion: -----	()	()	0-180
Extension -----	()	()	0-45
Abduction -----	()	()	0-180
Adduction -----	()	()	0-40
Internal Rotation -----	()	()	0-90
External Rotation -----	()	()	0-90
Elbow:			
Flexion: -----	()	()	0-145
Extension -----	()	()	0-
Supination -----	()	()	0-90
Pronation -----	()	()	0-90

Wrist:

Flexion	-----	()	()	0-80
Extension	-----	()	()	0-70
Ulnar deviation	-----	()	()	0-45
Radial deviation	-----	()	()	0-20

Thumb:

Flexion				
Metacarpophalangeal	-----	()	()	0-60
Interphalangeal	-----	()	()	0-90
Abduction				
Radial	-----	()	()	0-55
Palmar	-----	()	()	0-45

Finger:

Flexion				
Metacarpophalangeal	-----	()	()	0-90
Proximal interphalangeal	-----	()	()	0-120
Distal interphalangeal	-----	()	()	0-80
Extension				
Metacarpophalangeal	-----	()	()	0-25
Proximal interphalangeal	-----	()	()	0-
Distal interphalangeal	-----	()	()	0-
Abduction	-----	()	()	0-30

Hip:

Flexion	-----	()	()	0-125
Extension	-----	()	()	0-10
Abduction	-----	()	()	0-40
Adduction	-----	()	()	0-45
Internal rotation	-----	()	()	0-45
External rotation	-----	()	()	0-45

Knee:

Extension	-----	()	()	0-
Flexion	-----	()	()	0-140

Ankle:

Plantar flexion -----() () 0-45

Dorsiflexion -----() () 0-20

Foot:

Inversion -----() () 0-40

Eversion -----() () 0-20

TABLE 8.1
Standard Chiropractic Orthopedic and Neurological Tests and Signs

1. Neurovascular compression tests
 - A. Scalenus anticus syndrome
 - B. Costoclavicular syndrome
 - C. Hyperabduction syndrome
 - D. Cervical rib syndrome: Diagnosed by X-ray and the above
2. Naffziger's test (jugular compression test—I.D.S.) (coughing, sneezing, straining)
3. Kemp's test—differentiate I.D.S.
4. Fabere sign (Patrick's test)—hip involvement
5. Kernig's sign—meningeal irritation
6. Lasègue's sign—sciatic nerve disease, straight leg raising (lower back) difficulties
7. Bragard's test—lower back problems
8. Ober's sign—diagnosis of iliotibial band
9. Ely's heel-to-buttock sign—lumbosacral lesion or contracture of the fascialata
10. Hibb's test—sacroiliac lesion
11. Minor test (low back)—
12. Fajersztain's test—I0S
13. Goldthwait's sign—differentiate sacroiliac, lumbosacral
14. Hip flexure
15. Soto-Hall test—fracture, sprain, or disc lesion
16. Gaenslen's sign—sacroiliac, lumbosacral conditions
17. Nachla's sign—femoral nerve stretch
18. Congenital hip joint
19. Hoover's sign
20. McBride's test (toe to mouth)
21. Libman's test—pain threshold
22. Trendelenburg's test—hip involvement
23. Romberg's sign—brain tumors, lesion of spinal cord
24. Dysmetria (past-pointing phenomenon)
25. Froment's sign (cone test)—ulnar nerve problems
26. Wrist drop
27. Tinel's sign—nerve percussion
28. Brudzinski's sign—meningeal irritation
29. Plantar reflex
30. Babinski's sign—(upper motor neuron lesion.)
31. Bilateral active leg raise—lumbosacral involvement
32. Neri's sign—sacroiliac involvement
33. Clonus (wrist, ankle, patellar)—UMNL
34. Stewart-Holmes sign—ipsilateral cerebellar disease
35. Sciatic neuropathy—difficulty walking on toes
36. Femoral neuropathy—difficulty walking on heels
37. Lewin test—lumbosacral or sacroiliac instability
38. Linders's sign—sciatic nerve test

TABLE 8.2
Proper Labeling of Standard X-Rays

A. Routine cervical spine views:

1. AP—anterior to posterior (open-mouth odontoid)
2. AP—anterior to posterior
3. Neutral lateral
4. Lateral-flexion
5. Lateral-extension
6. LPO—left posterior oblique
7. RPO—right posterior oblique
8. Optional-vertex (axial atlas)

B. Routine thoracic spine views

RECUMBENT THORACIC SPINE

1. AP
2. Lateral
3. Spot lateral—oblique upper spine

STANDING THORACIC SPINE

4. AP
5. Lateral

RIBS

6. Anterior ribs
7. Posterior ribs—PA chest position
8. Posterior ribs—AP spine position

STERNOCLAVICULAR

9. Upright, with traction

STERNUM

10. PA—oblique
11. Lateral

C. Routine lumbar spine pelvic views

RECUMBENT LUMBAR SPINE

1. AP
2. Lateral
3. RPO and LPO

RECUMBENT LUMBOSACRAL JUNCTION

4. Spot AP cephalic lumbosacral junction
5. Spot lateral
6. Spot LPO and RPO

STANDING LUMBAR SPINE

7. AP
8. Lateral

RECUMBENT AP PELVIS

9. AP

SACRUM

10. AP cephalic
11. Lateral

COCCYX

12. Ap caudad
13. Lateral

SACROILIAC ARTICULATIONS

14. PA
15. LAO and RAO obliques

HIPS

16. Spot AP
17. Spot lateral

D. ROUTINE UPPER- AND LOWER-EXTREMITY VIEWS

In some states liberal chiropractors often use X-rays of the extremities to rule out bone pathologies before administering conservative therapy or treating fractures. The following are considered standard and usual:

CLAVICLE

1. PA
2. AP
3. AP cephalic

SHOULDER

4. AP external
5. AP internal

ARM

6. AP
7. Lateral

ELBOW

8. AP
9. Lateral
10. Axial

FOREARM

11. AP
12. Lateral

WRIST

13. PA
14. PA

15. Lateral

16. Palmar oblique
17. Dorsal Oblique

HAND

18. PA
19. Oblique

FINGER

20. PA
21. Oblique
22. Lateral

THUMB

23. Oblique
24. Lateral
25. AP

UPPER FEMUR

26. AP and lateral

LOWER FEMUR

27. AP
28. Lateral

KNEE

29. AP
30. PA
31. Lateral
32. Notch
33. Axial
34. Oblique

LEG

35. AP
36. Lateral

ANKLE

37. AP
38. Oblique
39. Lateral

FOOT

40. PA
41. Medial oblique
42. Lateral
43. Dorsal oblique

TOES

44. PA
45. Oblique

8.3.2 Standard Chiropractic X-Ray Report

1. Fractures: Neg._____ Pos._____ Type and location_____
2. Malformations and anomalies: Neg._____ Pos._____
3. Osseous pathology: Neg._____ Pos._____
4. Angles of curvature: Neg._____ Pos._____
5. Subluxations: Neg._____ Pos._____
6. Other findings:_____

TABLE 8.3
Grading of Muscle Strength

0.	0.	0%	Zero	No evidence of contractility
1.	T.	10%	Trace	Evidence of slight contractility
				No joint motion
2.	P.	25%	Poor	Complete range of motion with gravity eliminated
3.	F.	50%	Fair	Complete range of motion against gravity
4.	G.	75%	Good	Complete range of motion against gravity with full resistance
5.	N.	100%	Normal	Complete range of motion against gravity with full resistance

Nature of injury:_____

Extent of injury:_____

Pain: Severe_____ Moderate_____ Slight_____ Minimal_____

Causative factors: All from injury_____ Other factors_____

Explain:_____

Patient: Sincere_____ Cooperative_____ Exaggerating_____ Malingering_____

Recommendations_____

Duration_____

Prognosis:

Temporary total disability_____Duration_____

Temporary partial disability_____Duration_____

No disability

Temporary impairment: Neg._____ Pos._____ Spinal impairment_____%

Present impairment: Neg._____ Pos._____ Spinal impairment_____%

Whole-body impairment_____%

TABLE 8.4
Sample Treatment Records

7-1-83	Consultation, history—see file—preliminary exam. Recommended cervical and thoracic X-rays—suggested ice, moist heat for soreness.
7-3-83	Ortho-exam—see file—X-rays taken—manual soft-tissue therapy for paraspinal contractions—fitted with cervical collar.
7-4-83	Pain over left lateral cervical area more intense. Report of X-rays given—suggested pain medication during acute stage. Fitted for home cervical traction—5–10 mins, 6–8 lbs, once daily—Jackson pillow—soft-tissue therapy.
7-6-83	Reviewed isometric exercises—dull pain in left upper thoracic region—adjusted C1-2 right-prone position—soft-tissue therapy—using medication.
7-8-83	Had physical exam by family doctor on 7-7-83 with complaints of abdominal pain. Adjusted T2-3 spinous left; C1-2 right-prone position using cervical traction; gives some relief.
7-9-83	Fell at home and bumped left lower leg—slight bruise visible; no other new complaints. Headaches are fewer. Adjusted C1-2 right-prone position—T5-6 posterior, soft-tissue therapy.
7-11-83	Received medical report—blood pressure too high. M.D. prescribed corrective diet and temporary medication. Adjusted T2-3 spinous left—intermittent cervical traction—30 lbs.—6 mins.
7-14-83	Cervical-thoracic pain less but motion still restricted—cervical traction—same setting—soft-tissue therapy—no adjustment.
7-17-83	Cervical traction—reviewed home exercises—Jackson pillow comfortable—fewer headaches. Adjusted C1-2, right-prone position—cervical traction. BP checks with M.D.—O.K.
7-19-83	Recommended continuing swim class—yoga also. Pain in thoracic region less constant; no problems now at work. Adjusted T5-6—posterior-cervical traction—30-35 lbs., 8 mins. Check in one week; continue moist heat if desired.
7-26-83	No headaches. Cervical-thoracic pain nearly gone. Instructions on back care, work positions, no adjustment. Cervical-thoracic motion nearly normal. Upper spinal reflexes brisk, equal, no arm symptoms. Will check in one month.

TABLE 8.5
Acceptable Avenues for Patient Care

1. Spinal adjusting
2. Manipulation
 - A. Spinal
 - B. Articular
 - C. Soft tissue
3. Adjunctive physical therapy procedures
4. Nutritional and psychological counseling
5. Supportive procedures, corsets, casts.
6. First aid and emergency procedures
7. Patient education
8. Consultation and/or referral

TABLE 8.6

PART A Cervical		Severity	Complications	Weeks of Observation	No. of Visits with or Without Physiotherapy
1	simple strain w/ spinal subluxation	none		6	6–8
2	simple strain w/ spinal subluxation	w/ preexisting joint sclerosis, spondy- losis, osseous anomalies, liga- ment instability		6–8	10
3	simple sprain w/ spinal subluxation	none		10	10
4	simple sprain w/ spinal subluxation	w/ preexisting joint sclerosis, spondy- losis, osseous anomalies, liga- ment instability		12	10–15
5	disc compression; protrusion w/ spinal subluxation	none		16	10–15
6	disc compression; protrusion w/ spinal subluxation	w/ preexisting joint sclerosis, spondy- losis, osseous anomalies, liga- ment instability		18	10–20
PART B Thoracic		Severity	Complications	Weeks of Observation	No of Visits with or Without Physiotherapy
1	simple strain w/ spinal subluxation	none		4–6	6–8
2	simple strain w/ spinal subluxation	w/ preexisting joint sclerosis, spondy- losis, osseous anomalies, liga- ment instability		6–8	10
3	simple sprain w/ spinal subluxation	none		8–10	8–10

4	simple sprain w/ spinal subluxation	w/ preexisting joint sclerosis, spondy- losis, osseous anomalies, liga- ment instability	10–12	10–12
5	disc compression; protrusion w/ spinal subluxation	none	12–14	10–15
6	disc compression; protrusion w/ spinal subluxation	w/ preexisting joint sclerosis, spondy- losis, osseous anomalies, liga- ment instability	18	10–20

PART C	Lumbar	Severity	Complications	Weeks of Observation	No. of Visits with or Without Physiotherapy
	1	simple strain w/ spinal subluxation	none	6	6–8
	2	simple strain w/ spinal subluxation	w/ preexisting joint sclerosis, spondy- losis, osseous anomalies, liga- ment instability	6–8	10
	3	simple sprain w/ spinal subluxation	none	10	10
	4	simple sprain w/ spinal subluxation	w/ preexisting joint sclerosis spondy- losis, osseous anomalies, liga- ment instability	12	10–15
	5	disc compression; protrusion w/ spinal subluxation	none	16	10–15
	6	disc compression; protrusion w/ spinal subluxation	w/ preexisting joint sclerosis, spondy- losis, osseous anomalies, liga- ment instability	18	10–20

NOTE: Neurological consultation should be obtained if symptoms do not lessen in 2 to 4 weeks. The above averages must be compared to numerous variations according to age; sex; occupation; underlying condition of muscles, ligaments, and osseous structures; and general body condition.

CHIROPRACTIC AND MENTAL HEALTH; OBSTETRICS AND GYNECOLOGY; PROCTOLOGY AND PEDIATRICS

9.1 Chiropractic and Mental Health

Some chiropractors today use in their treatment the Palmers' theory that relieving structural spinal problems helps a patient recover from stress-related, emotional disorders. According to this line of thought, the chiropractor directs his attention to the neural basis for psychological malfunctioning, and by reducing nerve interference, promotes positive behavioral changes. Although this is an interesting argument, it is unrealistic and inadequate treatment for emotional disorders.

In the anthology *Mental Health and Chiropractic: A Multidisciplinary Approach*, several authors recommend that chiropractors be *part* of the mental health-care team by treating spinal-based neural stress in their unique way. These authors aver that some patients with psychological disorders benefit from chiropractic care:

The spinal subluxation causes pain, discomfort, lack of mobility and muscle tension. These factors can cause reflex increase in muscle tension, visceral dysfunction and reticular system activation with insomnia. Correction of the subluxation with the subsequent decrease in afferent input and central reflex activity could, therefore, be at least one of the mechanisms through which the chiropractic adjustment benefits patients with psychological disorders.¹

W. Heath Quigley, a former Palmer teacher and director of the Clear View Chiropractic Sanitarium from 1951 to 1961, claims to have successfully treated schizophrenia, affective disorders, other psychological problems, and certain brain disorders. He offers a compelling explanation of why chiropractic care benefits those in emotional distress:

The chiropractic adjustment, which is designed to restore integrity to nervous system function as well as to correct the structural distortion, induces relaxation. This type of relaxation is highly significant because the underlying correction often provides a physical substratum in which

deeper relaxation can be perpetuated. The pairing of the chiropractic adjustment with its response of relaxation, provides a counter-conditioned response to anxiety and tension, because relaxation is antithetical to anxiety and its related states. Reduction of proprioceptive feedback from muscles to the spinal cord, and to the reticular activating system reduces cortical excitation which in turn responds by diminishing the barrage of efferent impulses to the muscles and viscera. Organization and integration of cognitive function is restored and a corrective emotional experience takes place.²

Quigley admits that his personal experiences and observations do not constitute acceptable proof, and urges chiropractors to conduct scientific studies to determine the statistical efficacy of their profession in treating mental health disorders. Despite the lack of objective evidence, he calls for the continued use of chiropractic for psychological problems in combination with orthodox therapies:

All in all, clinical experience indicates that chiropractic is a worthwhile therapy in the mental disorders. It is not seen as the only treatment or even the treatment of choice in all cases, but it justifies the most serious consideration. In some instances chiropractic may provide the corrective influence, while in others it may be relatively ineffectual. But there are literally millions who would probably benefit from chiropractic care combined with hospitalization, counseling, and other therapeutic approaches.³

Over the last 75 years, thousands of chiropractic physicians have reported that patients expressing various degrees of anxiety and emotional distress appear more relaxed and say they feel better emotionally following chiropractic care. Many have presented case histories of extensive counseling that did not seem to alleviate their emotional pain. Numerous patients have sought out chiropractors after hearing from others that “chiropractic adjustments helped my nerves.” It seems safe to say that the “therapeutic process” of chiropractic care—the undefinable, largely unconscious process of healing that transpires when practitioner and patient meet—often results in a reduction of emotional pain, however transient it might be. When a person in pain is warmly welcomed, listened to with sincere attention, comforted, and embraced during spinal adjustment, there is certainly opportunity for positive emotional transference leading to an increased sense of calm and well-being.

Although chiropractic can play an important role in treating psychological disorders, practitioners are not qualified by education, experience, or law to act as psychiatrists or psychologists. To practice as such, which is sometimes advocated within the profession, constitutes practicing medicine without a license and can have disastrous and perhaps fatal results for patients.

9.1.1 Psychology in Standard Chiropractic Treatment

Empathy is a vital part of a productive patient-practitioner relationship. An organized sequence of events—the work-up—provides a framework in which the empathic relationship can develop. With true patient-practitioner rapport, the way is open not only for treatment of the former’s overt complaint, but also for discovery and treatment of unconscious discomforts.

Unfortunately, as every psychologist knows, an empathic relationship is by no means a given. Conscious or unconscious, rational or irrational aversions on the part of patient or practitioner frequently preclude empathic communication. When a patient has a mental block, even practical information and therapy can be useless. The chiropractor is well-advised to undertake a limited amount of self-analysis or consult with a fellow practitioner to explore the mechanics of any failed encounter with a patient.

MEANS OF PROMOTING EMPATHY DURING A STANDARD CHIROPRACTIC VISIT

9.1.1.1 Welcoming the Patient

Usually a receptionist, preferably with a friendly and sympathetic demeanor, first greets the individual. The receptionist should reassure the patient as to his right to be there, and attempt to make him feel accepted as he is, despite his physical or psychological impairment. The office should be recognizable as a secure haven for physical and psychological treatment.

9.1.1. Consultation—Initial Patient-Practitioner Contact

The initial meeting of chiropractor and patient sets the tone for their entire relationship. The practitioner should empathize with the patient's assertion that he is in pain or otherwise disabled, and project concern for his well-being. When the patient perceives a caring attitude on the part of the chiropractor, a good psychological groundwork is often readily established.

9.1.1.3 Detailed Inquiry Into the Specific Complaint(s)

The chiropractor must fully explore his patient's professed and other reasons for seeking care. He thus establishes a starting point, and composes a physical and psychological picture of the individual and the major complaints. The patient's initial description is often vague, but questioning must continue until the client appears satisfied that he has been given enough time to discuss his problem, and the chiropractor is certain that he has a clear picture of the distress that brought the person to him. Empathic, *active* listening is essential to this delicate process of creating the therapeutic bond necessary for effective treatment.

9.1.1.4 Chronological History: Personal, Social, Family, Employment

The patient must be known not as a *cervical sprain* or *disc*, but as a person with a history that has some bearing on his physical and psychological status and often influences his specific symptoms the day he seeks help. Only with a thorough medical history can the chiropractor plan appropriate therapy or decide to refer.

9.1.1.5 The Whole-body, Whole-personality Approach to Treatment

The psychological component is an important and underrated part of many illnesses and disabilities. Practitioners dealing with structural-spinal disorders often tend to think strictly of the physical aspects of, say, a patient's job and fail to thoroughly consider the mental side—pace, tensions, job satisfaction, other negative stresses, etc. A good physical technician can be frustrated by a stubborn spinal problem until he recognizes an underlying psychological factor contributing to prolongation. The chiropractor should look to the whole personality for clues to symptoms or complaints with no apparent physical cause.

9.1.1.6 Explanation of Prescribed Therapy and Realistic Psychological Reinforcement during Treatment

A client has an implied contractual right to empathy and explanation until the original treatment goals have been accomplished or altered by mutual consent. Patient cooperation is obviously necessary for even minimally positive results; but the weight of reinforcement is on the chiropractor, who may need to guide the suffering person through a laborious process of treatment and rehabilitation. If unabated by the chiropractor's support and a realistic, positive appraisal of the outcome, discouragement can defeat even the best therapy.

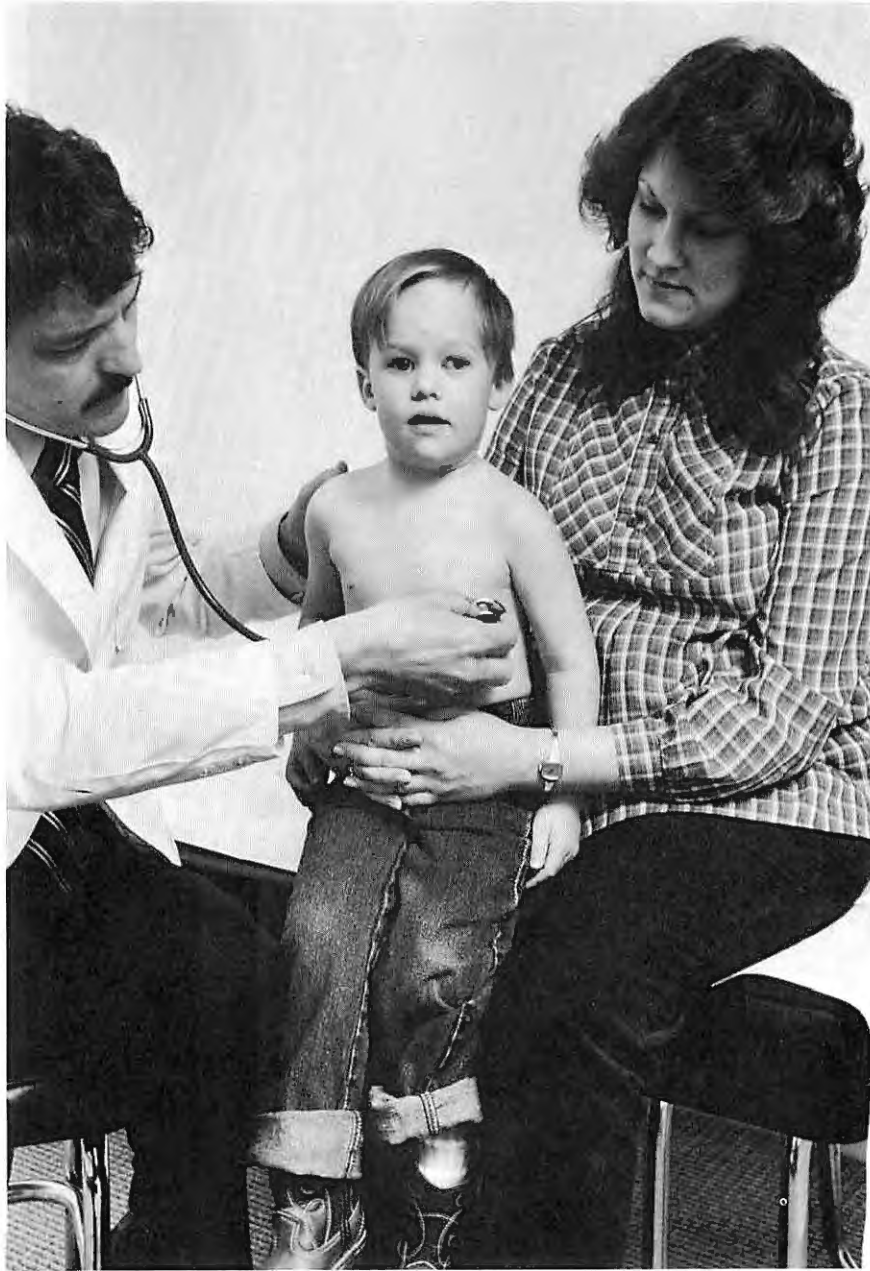


Figure 9.1
Chest-Cardiac examination of a child.



Figure 9.2
Thumb contact adjustment of the thoracic spine in an infant.



Figure 9.3
Skull Molding-Cranial adjusting of an infant.

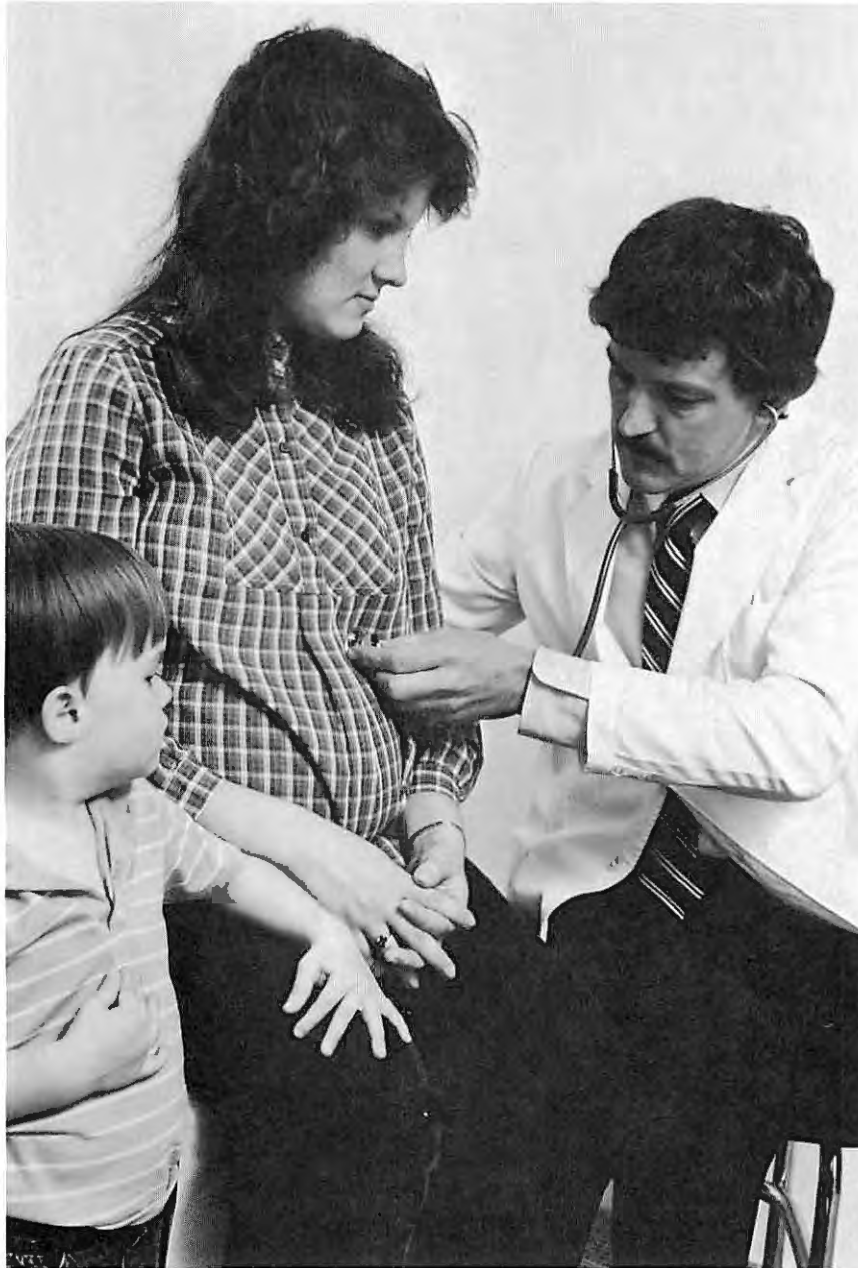


Figure 9.4

Should chiropractors with their present level of training be allowed to examine, diagnose and treat pregnant women?



Figure 9.5

Should the bodies of our young be entrusted to chiropractors who do not have the training and resources of medical pediatricians?

Many studies, some sponsored by organized chiropractic, some not, indicate that injured workmen suffering from sprain-subluxation syndromes can often be returned to work more quickly at a lesser cost with chiropractic treatment than through equivalent medical care. A 1972 survey by the department of family and community medicine at the University of Utah College of Medicine, compared physician and chiropractic care of workers with spinal problems. Of the sample, 122 patients were treated by chiropractors and 110 by physicians.

Generally, chiropractors required almost twice as many visits of their patients as did physicians. Mean duration of treatment was nine to three weeks for medical patients, as opposed to six to five weeks for those under chiropractic care. However, those who saw a medical physician were significantly more disabled at the time of their first visit than were the chiropractic patients.

The researchers discovered that there was a significant difference in the chiropractic patients' perceptions of the degree to which they were made to feel welcome and the explanation they received about their problem and treatment.

One of the major conclusions of the researchers was that "the intervention of a chiropractor in problems around neck and spinal injuries was at least as effective as that of a physician in terms of restoring the patient's function and satisfying the patient."

9.1.2 Psychological Therapeutics that may be Considered Irregular When Administered by Chiropractors

Many a chiropractor conceives of himself as a holistic practitioner with the right and obligation to treat the entire person, physically and mentally. Indeed, it is a founding concept of chiropractic that most conditions are caused by subluxations and thus amenable to adjustive therapy. Often such a practitioner allows himself to get caught up in a silent conspiracy with patients, venturing into therapeutic areas beyond his legitimate training. The chiropractor has a legal and ethical imperative to recognize his limitations and not exceed them. Psychologically distressed patients *must* be referred to a psychiatrist or psychologist for treatment.

9.1.2.1 Concept Therapy

"The most important job of the physician," wrote Norman Cousins in 1970, "is to activate the healing resources of the patient."⁴ Concept therapy uses positive concepting or autosuggestion in conjunction with spinal adjusting and other natural healing methods to enlist the subconscious in promoting the patient's health and happiness. A supportive philosophy is taught to guide the intellect in creating images of health rather than disease. Concept therapy was originally promulgated by a devout student of D. D. Palmer. Of course, for a physical or emotional problem that requires psychological or medical care, the exclusive use of this therapy could be detrimental to the client and could be considered malpractice.

9.1.2.2 Hypnotic Therapy

Hypnosis as simple, suggestive therapy, and hypno-analysis for physical disorders or emotional problems, are the medical methods. Regressive hypno-analysis, wherein the client is guided back to memories of traumas, can be a dangerous intrusion into the personality if it is not performed by someone specifically trained to treat psychological problems.

9.1.2.3 Family and Marriage Counseling

The family or marriage counselor is a demanding professional role that requires specific training. Chiropractors may have sufficient basic (and further specialized) background in psychology to recognize

and understand such problems. This does not qualify them to treat them. It is a violation of proper, standard care and a serious waste of the patient's time and money for a chiropractor to assume the role of psychotherapist or marriage or family counselor unless he is trained and licensed in such a specialty.

9.1.2.4 Scientology

During the 1950s, L. Ronald Hubbard, a science-fiction writer, developed a system of treating emotional and physical disorders based on the removal of "engrams," negative subconscious impressions thought to be induced by early childhood traumas. His popular book, *Dianetics: The Modern Science of Mental Health*⁵ presents a detailed explanation of his therapeutic approach. The patient grasps a contact that senses skin temperature and relays it to an E-meter, a recording device similar to a galvanometer or lie detector; and is told to verbally free-associate. The meter is supposed to signal to the "auditor," or counselor, which areas of the patient's life are blocked by earlier traumas. A person who has successfully purged himself, often through many hours of repetitious verbalizing of sensitive conflicts or negative "engrams," has freed his subconscious energy for creative expression. He is known as a *clear*.

Scientology has many interesting correlations to psychoanalysis; for example, the latter discipline aims at clearing conflicts from the client's unconscious, partly to allow for more creative expression of energy.

9.1.2.5 Sex Therapy

Since the inception of chiropractic, many of its proponents have used various physical and psychological techniques to treat sexual dysfunction and enhance normal sexuality. Treatment for conditions related to this sensitive area of life by unqualified practitioners often ends in cruel exploitation and irreversible emotional disability.

9.1.2.6 Interjection of Religious Doctrine or Rituals into Clinical Practice

A case of this unusual violation of a proper standard of care was recently referred to this author. It involved the practitioner's repeating various religious chants while he placed his hands over the patient's spine following the administration of an adjustment. Such unprofessional conduct can be disturbing to religious and non-religious patients alike, and has no place in the chiropractic office.

OBSTETRICS, GYNECOLOGY AND PROCTOLOGY

Since 1895 some chiropractors have involved themselves in nearly every aspect of medical practice including surgery. Some state laws governing chiropractic practice allowed chiropractors to practice gynecology, obstetrics and proctology. A review of the present state practice acts reveal to the author only one or two that could be interpreted as allowing treatment in these areas of specialized medicine. As medical associations and conservative chiropractic organizations lobbied against legislation which allowed these activities most state laws were changed to eliminate these procedures from the chiropractic scope of practice. A legal review of each present chiropractic state statute would be necessary to determine what treatment procedures would be allowed at the present time.

9.2 Chiropractic Obstetrics and Gynecology and Proctology

Early in chiropractic history many practitioners claimed the right to attend at childbirth as representatives of the natural therapeutic approach of spinal adjusting. Arguments on this subject raged between Palmer's early followers and medical professionals, as they still do today. Even in recent years a few

states still have provisions in the chiropractic statutes allowing Chiropractors to perform gynecological examinations and deliver babies.

In the author's opinion, chiropractors cannot claim to have medical skills and knowledge until their schools and state boards fully prepare students for the general practice of medicine. The federally accredited chiropractic education plan shows clearly that future graduates will be entering the fringes of medicine with responsibilities that are very likely beyond their clinical knowledge and possibly legal right.

9.3 Chiropractic "Pediatrics"

"Pediatrics" has been part of chiropractic since its beginning in 1895. Daniel Palmer and his son B.J. maintained that adjusting pregnant women to remove "nerve interference" from the lumbar spine reduced the chances of birth defects and related congenital problems. The Palmers said that interference with nerve supply in the mother caused the fetus's spinal segments to become misaligned and disrupt nerve impulse flow. This in turn altered normal developmental processes and resulted in congenital problems. They also taught that the twisting and stretching involved in birth misaligned spinal segments. Further, they blamed the medical profession for creating subluxations in infants by using forceps and other "artificial" birthing procedures.

Internists and neuroscientists with whom the author has conferred find it very difficult to support the theory that fetal and infant cartilaginous structures can become misaligned and "locked" out of place, forming a chiropractic subluxation that then causes "nerve interference." Nor does the author know of any documented scientific evidence for such a claim. Nevertheless, despite this absence of any acceptable scientific proof for his theories, the chiropractic "pediatrician" has a thriving practice. Parents are warned, through chiropractic promotional materials, that spinal subluxations are a "disease occurring worldwide in epidemic proportions"⁶ and that most babies fail to escape their grasp. One such brochure contained the following:

According to current chiropractic findings, 85 percent of children have one or more vertebral subluxations before the age of one year, and many more become victims of vertebral subluxations within the next few years of their lives.⁷

Joan Jacobs, a proponent of preventative chiropractic care for the young, suggests that during birth every infant becomes a victim of "the first subluxation." She states that chiropractors are the only health professionals who can effectively deal with birth-induced subluxations: "Who besides a chiropractor is better equipped to help sick kids get well or help kids stay healthy?"⁸ Larry Webster, director of the Life College, Lucky Street Clinic, Atlanta, and a popular lecturer on chiropractic "pediatrics" across the United States, agrees: "The chiropractic child of today is the healthy adult of tomorrow!"⁹

Chiropractic "pediatricians" claim they can treat most childhood diseases, except fractures and serious heart and lung problems. Conditions that in chiropractic literature are considered amenable to spinal adjustments include enuresis, infections, fever, Down's syndrome, muscular dystrophy, allergies, digestive problems, breathing difficulties, diarrhea, hepatitis, skin rashes, and sinus problems. Adjusting is supposed to increase the body's general resistance to childhood diseases.

Webster, the "Dr. Larry" who a *Life Chiropractic College Bulletin* says "will amaze you with his keen understanding of the chiropractic needs of children," has "over 20 years of private practice experience, specializing in pre-natal, natal and post-natal care."¹⁰ He makes the following observations regarding the treatment of fevers in children:

An artificial lowering of temperature may cause difficulty in the long run. Whenever the body temperature rises to 104 degrees or above, be aware of the convulsive state. This doesn't

always happen, but it should be treated as an emergency when it does. As a rule, however, making an occipital correction will reduce the probability of convulsions.¹¹

Webster also states that in Caesarean-section births fluid tends to remain in the child's lungs, which may weaken them and cause asthma in early childhood. He suggests that practitioners look for an upper-dorsal misalignment as a cause of such conditions.

Proponents of chiropractic "pediatrics" suggest various ways in which the practitioner can adapt the techniques and attitudes he uses with adults to children. The following list is composed from various pieces of chiropractic literature:

1. A chiropractor should have a children's room in his office with toys, games, and a special "soft" adjusting table.
2. He should use simple language to make children feel comfortable.
3. The force used for child spinal adjustment should be only a very few ounces, and no rotary or side-posture maneuvers should be administered.
4. The contact point of the adjuster should be the thumb.
5. The lumbar spine should never be adjusted forcefully toward the anterior of the body.
6. If the child is restless, the mother should hold him on her lap while the adjustment is administered.
7. The chiropractor should determine occipital and upper-cervical misalignments by observing eye level and measuring the cerebral hemispheres with calipers or a tape measure.
8. The chiropractor should adjust the sutures of the skull to realign the skull bones.

Jacobs discusses several ways for the chiropractor to attract the attention of parents and hold the interest of child patients. She suggests that he use the title "family chiropractor" and promote himself in the community as a child health-care provider by offering free spinal and postural examinations for children. One idea is to keep photographs of "your own kids or nieces and nephews on your desk as a basis for beginning a conversation with a parent about the importance of chiropractic for the young."¹² Jacobs describes a "teddy-bear" adjusting table designed specifically for children and placed in a special room to impress parents.

To responsible medical pediatricians with years of postgraduate training in the complexities of infant and childhood diseases, and to clear-thinking parents, chiropractic "pediatrics" is a dangerous, false profession. There is no scientific medical proof that chiropractic has any efficacy against childhood diseases. Although chiropractors report positive results in treating children for many conditions one must always wonder whether the diagnosis was accurate and whether the chiropractic treatment had anything to do with the reported recovery. Chiropractors receive some pediatrics training, but there is a severe danger of their not recognizing problems that need medical intervention. This author cannot condone chiropractic adjusting for children except in treating young athletes for strains and sprains resulting from direct or indirect physical trauma to the spine.

The author has reviewed a few cases of chiropractic malpractice regarding children and has had telephone conversations with attorneys and brief summaries of approximately nine cases. These are very

disturbing and leave him with serious doubts as to whether chiropractors should have the right to treat any child under age sixteen who has not had a prior medical pediatric examination.

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CHIROPRACTIC AND MEDICAL ETHICS

10.1 The Chiropractor's Oath

In accordance with the Law of Nature, that law which God has prescribed to all men, and in consequences of my dedication to getting the sick well by the application of that Law, I promise to swear to keep, to the best of my ability and judgment, the following oath:

I will observe and practice every acknowledged rule of professional conduct in relation with my profession, my patient, my colleague and myself.

I will keep an open mind regarding the progress of my profession, provided that these progressions shall be confined within the boundaries of the Chiropractic Science, Philosophy and Art.

I will serve my patient to the best of my ability, violating neither his confidence nor his dignity, and in my association with patients, I shall not violate that which is moral and right.

I shall regard and refer to my fellow Chiropractor with honor, giving credit where it is due.

I shall improve my knowledge and skill, firm in any resolution to justify the responsibility which the degree of Doctor of Chiropractic symbolizes and imposes.

To all this, I pledge myself, knowing these ideals are prescribed by the dictates of reason alone.

Oath from
PALMER COLLEGE OF CHIROPRACTIC
Davenport, Iowa¹

10.2 The Hippocratic Oath

I will look upon him who shall have taught me this Art even as one of my parents. I will share my substance with him, and I will supply his necessities, if he be in need. I will regard his offspring even as my own brethren, and I will teach them this Art, if they would learn it, without fee or covenant. I will impart this Art by precept, by lecture, and by every mode of teaching, not only to my own sons, but to the sons of him who has taught me, and to disciples bound by covenant and oath, according to the Law of Medicine.

The regimen I adopt shall be for the benefit of my patients according to my ability and judgment, and not for their hurt or for any wrong. *I will give no deadly drug to any*, and especially I will not aid a woman to procure abortion. Whatsoever house I enter, there will I go for the benefit of the sick, refraining from all wrongdoing or corruption, and especially from any act of seduction, of male or female, of bond or free. Whatsoever things I see or hear concerning the life of men, in my attendance on the sick or even apart therefrom, which ought not to be noised abroad, I will keep silence there counting such things to be as sacred secrets.²

10.3 Ethics, Negligence and Malpractice

At the Palmer College of Chiropractic, the author was issued a copy of Ronald H. Long's *The Physician and the Law* as a guide to professional ethics. This legal, ethical manual, written for medical physicians, details nearly every aspect of the doctor-patient relationship and third-party involvement in health care. In the classroom and in post-graduate seminars, critical aspects of the chiropractor-patient relationship were explored. In this complex relationship, it is clear that the chiropractor bears an increasing amount of responsibility and the courts now consider him as a primary health care provider with the same ethical obligations of medical physicians and other primary health care professionals.

Essentially, there is no difference between chiropractic and medical ethics. Ethics are principles of right or good conduct. They apply uniformly for each profession, as well as for subdivisions of the same profession.

There are no federal laws to my knowledge that attempt to mandate ethical practice by chiropractors, but each state has a Chiropractic Licensing Board which governs the scope of practice and many have legislated a separate chiropractic disciplinary board which receives, investigates and acts upon complaints concerning questionable practices. Also, until a recent Supreme Court decision dissolved them, most states had a peer view committee composed of chiropractors to evaluate patient and insurance company complaints concerning appropriate treatment and cost of treatment.

Most state chiropractic associations have rules of ethics for members, but their boards have no real control over individual practices and can only exert indirect influence which allows or refuses membership in their particular group.

At the present time, most complaints about chiropractic health care services are handled by the respective state licensing board, disciplinary board, or the Consumer Protection Division of the respective state attorney general's office.

When a chiropractor accepts a patient, whether the relationship is contractual or merely by consensus, the chiropractor is under a strict obligation to exercise the degree of skill, care and judgment ordinarily given by other members of his profession. Not long ago, this concept would have been amended according to the laws of different states and other geographic divisions. In 1983, however, an unofficial national consensus based on the new federal C.C.E. educational standards establishes definite national standards for all chiropractic practitioners as primary care practitioners. Thus, as ethical professionals,

chiropractors and brain surgeons have equal responsibilities to their patients in all aspects of their distinctive practices; they differ only in their specific goals and modes of treatment. A responsible brain surgeon guided by proper medical practice standards must follow certain definite clinical steps in preparation for opening the skull and working on the brain. A responsible chiropractor must perform proper examinations and make certain preparations before he administers a spinal adjustment. If either misses a critical step, the patient can be damaged, and there is no defense against the charge of malpractice.

The fundamental principles of chiropractic ethics as stated by the American Chiropractic Association are based on the following precepts.

- A. The ultimate end and object of the chiropractor's effort should be the greatest good for the patient.
- B. The conduct of the chiropractor and patient and of chiropractors toward each other should be but facets of the Golden Rule: "Therefore, all things whatsoever ye would that men should do to you, do ye even so to them."⁴

The following is the author's synopsis of the American Chiropractic Association Code of Ethics outlining the duties of the chiropractor to the patient. (Section 1-8)

Section 1: The chiropractor's primary objective is service to his patients.

Section 2: The chiropractor has a responsibility to be available for those people he has agreed to treat. The chiropractor must keep his patient's records secret unless secrecy would result in harm to others.

Section 3: A chiropractor must attend a patient as often as is necessary to insure continued, favorable progress, and also avoid unnecessary visits.

Section 4: A chiropractor should not exaggerate the severity of the patient's condition.

Section 5: A chiropractor should not abandon a patient, but give sufficient notice to allow time to secure a replacement.

Section 6: A chiropractor may dismiss patients who persistently refuse to follow directions.

Section 7: A chiropractor should be ready to act upon any desire of the patient for a (medical) consultation.

Section 8: A chiropractor must not assist the patient in any questionable practices such as the pretense of disease to avoid military service or the concealment of disease to obtain favorable life insurance.⁵

In this discussion of the duties of a chiropractor to his patient, the following terms and their definitions are important:

- A. *Scope*: The extent of appropriate treatment, activity or range of professional practice.
- B. *Negligence*: A failure to exercise the care that a prudent chiropractor would follow.
- C. *Malpractice*: Dereliction of professional duties or failure to exercise an appropriate, accepted

degree of professional skill or learning by a chiropractor rendering professional services that results in injury, loss, or damage to the patient.

- D. *The Reasonably Prudent Person/Chiropractor*: In determining whether an unreasonable risk is presented under any particular set of facts, the law creates a fictitious person to evaluate the chiropractor's actions against. This person is also looked upon as one with whom fellow chiropractors should pattern themselves after. The reasonably prudent chiropractor is the ideal, the standard. He is not perfect, but he is careful. The reasonably prudent chiropractor provides good chiropractic care. He adheres to the standards of his profession; he brings and gives to his practice the level of skill and expertise customarily provided by his colleagues under the same or similar circumstances. He is a flexible concept used in evaluating any complaint of chiropractic malpractice.⁶

The following points are not meant to be a comprehensive treatise on chiropractic ethics; they are only a synopsis of concepts directly related to negligence and malpractice in daily chiropractic practice. In chiropractic practice in general, and the chiropractor-patient relationship specifically, there are ten basic points of ethics:

- Implied Consent
- Informed Consent
- Informed Choice
- Treatment Without Consent
- Diagnostic Adequacy
- Prescription and Administration of Appropriate Treatment
- Promise of a Cure
- Abandonment
- Violation of the Right of Privacy
- Emotional, Mental, Physical, Sociological or Economic Assault.

IMPLIED CONSENT

- A. A chiropractor should possess and use the level of learning and skill of other practitioners in his profession who have kept abreast of developments.
- B. The chiropractor must use his best judgment in all aspects of health care.
- C. The chiropractor must give only spinal adjustments using methods in which he has been trained. He should have a degree of proficiency in the use of these methods equal or better than that of his peers.
- D. The chiropractor must inform the patient if he needs concomitant medical care as well as spinal adjustments.
- E. The chiropractor should give proper instructions to a patient for care of the injured area.
- F. The chiropractor must not experiment with his patients or offer experimental therapy without a full explanation and consent.
- G. The chiropractor must not accept too many patients which may encumber his time to the degree that his work with any individual patient would suffer to a degree that it would fall below the standard of care expected of a well-trained similar practitioner in his community.

10.3.1 Implied Consent

When a patient consults a chiropractor and the practitioner begins treating him, whether it be merely an initial consultation or immediate administration of emergency treatment, the two have entered into an implied contract. It is possible that neither one has said a single word about the terms of the contract, but the legal and ethical obligation is unmistakable. It does not have to be in writing. The tacit legal contract is that the patient and the chiropractor will perform their respective duties and that the chiropractor will treat the case until it has reached a proper conclusion or refer the patient to an appropriate health care practitioner.

10.3.2 Informed Consent

The chiropractor has a duty to inform his patient of any substantial risks of injury related to spinal adjustments or any supportive care administered in the course of patient management. Substantial risks should be in writing, an oral explanation given, and the patient's consent received before the treatment is administered. Informed consent means that the patient has been informed of all the potential consequences, dangers, and other factors involved in his treatment, so that his agreement to receive spinal adjustments is given with full knowledge of the potential dangers. A letter to a legal counsel for one of the national chiropractic associations requesting information on informed consent was answered with the following.

"I have been asked to respond to your letter of February 9, 1983, concerning your questions on informed consent. Generally speaking, you are correct in your position that a chiropractor is not required to inform his patients of every remotely possible risk connected with a proposed form of treatment. A chiropractor does have the duty to inform his patient fully of all significant risks, including any dangers inherent in the treatment, that the chiropractor knows of or reasonably should know of, in order that the patient may make an intelligent decision whether or not to undergo the treatment.

Underlying all of this, of course, is the requirement that the proposed treatment be based upon the chiropractor's proper evaluation of the patient's medical history, his physical condition, radiological findings, etc. Many states have specific statutory enactments concerning informed consent as well as judicial determinations on the subject. I, therefore, would suggest that you may want to contact your attorney or your State Chiropractic Association for more specific information applicable to your state."⁷

In a national newsletter on malpractice, informed consent was described as: a combination of (1) the legal duty or briefing of a patient as to the contemplated procedure; (2) forewarning the patient as to any possible adverse effects inherent in the procedure; and (3) the patient's acceptance of the risks involved.⁸

10.3.3 Informed Choice

The concept of informed choice or making the patient aware of alternate modes of treatment for his complaints, is another matter of good faith and a basic duty of a chiropractor. The choices that he must describe to the patient may include medical treatment or no treatment at all. If the chiropractor knows or should know that his treatment will not be efficacious for the presenting complaint, he must fully acknowledge this to the patient and make arrangement for a alternative mode of treatment that would be considered appropriate based on national chiropractic standards.

10.3.4 Treatment Without Consent. (Assault and Battery)

The basis for a malpractice suit based on this concept is that the chiropractor administered an adjustment or other treatment to the patient without fully informing him and obtaining his consent. Every adult in possession of his faculties has a right to decide what shall happen to his body and is legally protected by the concept of consent.

This violation occurs when the practitioner proceeds to adjust an extremity during an examination or adjusts an area of the spine which was not included in the original examination and clinical work-up. This also occurs when the chiropractor grasps a child who is in the room with the parent who is a patient and adjusts his spine.

10.3.5 Diagnostic Adequacy

It is a basic and irrefutable rule that a patient is entitled to as careful and thorough an examination as his symptoms and presenting condition allow. The procedures for diagnosis must be carefully chosen and performed and acceptable to a prudent chiropractor based on national standards. If a chiropractor has acted honestly and sincerely but due to a misdiagnosis administers a wrong treatment that injures his patient, he can be held liable for damages. All procedures must be thoroughly and painstakingly executed with a level of understanding and practice commensurate with current national chiropractic standards.

10.3.6 Prescription and Administration of Appropriate Treatment

The treatment prescribed or administered by a chiropractor must conform to the established methods of treatment taught in chiropractic schools and allowed by state statutes. Failure to apply the methods followed or approved by chiropractic schools constitutes malpractice unless the procedure is presented as experimental. The methods used must be those generally recognized as likely to produce favorable results for the symptoms and condition of the patient as he presents himself thus. The practitioner must not presume to treat infectious or communicable diseases as these are considered not the province of a responsible, prudent chiropractor. The practitioner must ascertain whether the person seeking his services is afflicted with a condition not amenable to the treatment he offers.

10.3.7 Promise of a Cure

A chiropractor should not guarantee a good result but by implied consent promises to use his best skill, judgment and knowledge and exercise reasonable care. It is reasonable and prudent that the practitioner explain to the patient the chances of curing or easing his symptoms if possible and provide an estimate of the amount of treatment required, and give a reasonable idea of the long-term outcome of the preferred therapy.

10.3.8 Abandonment

When a chiropractor undertakes to treat a patient, he is required by reasonable standards to give continued attention to what the condition requires and arrange for any needed medical care unless he is requested not to do so by the patient. If he does not wish to treat the patient or decides to stop treatment at any time during the relationship, he must inform the patient and make arrangements for him to obtain the services of another chiropractor. The chiropractor must not abandon the patient at a critical stage of his condition without making ironclad arrangements with another responsible practitioner to assume the patient's care.

10.3.9 Violation of the Right of Privacy

The chiropractor has a definite responsibility to not expose his patient to mental or emotional pain and distress due to intrusion upon the patient's privacy. Information about the patient's case history, treatment, or remarks to the chiropractor may not be released to anyone without written consent of the patient. Nor is information regarding the patient to be published or used commercially without a legal written agreement from the patient.

10.3.10 Emotional, Mental, Physical, Sociological or Economic Assault

A chiropractor is not to become involved sexually with any patient who is under his care, regardless of age, or use his position of authority in any self-serving manner that in any way is detrimental to the patient.

10.4 General Responsibilities of Chiropractors

NOTE: These responsibilities have been culled from chiropractic college notes on ethics, various state chiropractic board rules and state and national association code of ethics and would apply to chiropractors throughout the United States.

- A. The chiropractor must avail himself of the latest information in his profession regarding diagnosis and therapy for the symptoms he undertakes to treat as a primary health care professional.
- B. The chiropractor must offer only treatment in which he is knowledgeable and that is legally permissible as defined by his education and statutes for the state in which he practices.
- C. The chiropractor must perform a thorough consultation, history, examination and radiographic and laboratory work-up on the patient before beginning any treatment.
- D. The chiropractor must give a patient a reasonable assessment of his condition. He must inform the patient of all foreseeable consequences of his treatment, good or bad.
- E. The chiropractor must offer and explain alternative modes of therapy for the presenting symptoms.
- F. The chiropractor must not promise a cure when there is no established proof that his mode of treatment can effect it.
- G. The chiropractor must give a new patient on request an explanation of what the spinal adjustment or other treatment entails and what results can generally be expected. The practitioner must differentiate the spinal adjustment from other supportive care.
- H. The chiropractor must inform the patient as to what areas of the body he will adjust and not perform any unannounced manipulations or change methods during a regime without first informing the patient and receiving his consent.
- I. The chiropractor must inform his patient of the latter's responsibility regarding the treatment given; the conduct expected of him; and any directions he is expected to follow at home.

- J. The chiropractor must obtain the patient's written consent before administering any experimental therapy (not accepted as routine procedure based on national standards.) He must also clearly set forth any risks involved.
- K. The chiropractor must offer the patient a consultation with a medical specialist when it is evident that the progress expected for a similar condition under reasonably similar circumstances has not taken place.
- L. When the chiropractor has a reasonable doubt about his qualifications for handling a case, he must promptly inform the patient and refer him to another health care practitioner.
- M. The chiropractor must not discourage a patient from taking medication or having surgery when the need for the medication or operation is reasonable. He must not exaggerate or impugn the services or treatment offered by other health care practitioners where such care is indicated.
- N. The chiropractor must not abandon his patient at anytime during their relationship and he should make adequate arrangements when he is to be absent from his office and not available by telephone.
- O. The chiropractor must keep clear and comprehensive records regarding all treatment and contacts with the patient either in person or by telephone.
- P. The chiropractor must release information from his records and x-rays to other health care practitioners upon written request of the patient.
- Q. The chiropractor is responsible for determining any supportive care given to the patient by his office assistants or any associate under his direct supervision and for the ability of his office assistants to administer this treatment.
- R. A chiropractor must not present literature extolling a particular method of treatment or promise of cure or advertise that which is not truthful or established chiropractic practice.

RESPONSIBILITIES OF A PATIENT

- 1. The patient should select a chiropractor in whose knowledge skill and integrity he can place confidence and the patient should follow the advice and direction related to the prescribed treatment regime.
- 2. The patient should state all facts and information regarding his illness in order to assist the chiropractor in helping him regarding treatment and any home instructions given to help his case.
- 3. If the patient desires a medical consultation, he should make a direct statement to that effect or request it of his chiropractor.

The rules, percepts, and guides for ethical practice for chiropractors are based on rational, reasonable actions by a licensed professional and his seeking patients. Chiropractic schools and associations have no legal power over graduates and members but only attempt to inculcate them with motivation to perform as a capable professional and hopefully inspire them to seek the best for their patients. However, chiropractic state licensing boards and chiropractic disciplinary boards have been invested with legal clout to enforce

their precepts of right actions in relationship with their patients. The Washington State Chiropractic Disciplinary Board Code of Ethics is a part of the state chiropractic law and gives a good example of ethical practice guidelines expected of chiropractors nationwide.

WAC 113-10-010 PRIVILEGED COMMUNICATIONS. A chiropractor shall not, without the consent of the patient, reveal any information acquired in attending such patient, which was necessary to enable the chiropractor to treat the patient; PROVIDED, That this shall not apply to the release of information in an official proceeding where the release of information may be compelled by law. [Order PL 235, § 113-10-010, filed 12/31/75.]

WAC 113-10-020 PATIENT ABANDONMENT. The chiropractor shall always be free to accept or reject a particular patient, bearing in mind that whenever possible a chiropractor should respond to any reasonable request for his services in the interest of public health and welfare. [Order PL 235, § 113-10-020, filed 12/31/75.]

WAC 113-10-030 CONSULTATION. In difficult or protracted cases consultations are advisable, and the chiropractor should be ready to act upon any desire the patient may express for a consultation, even though the chiropractor may not personally feel the need for it. [Order PL 235, § 113-10-030, filed 12/31/75.]

WAC 113-10-040 UNETHICAL REQUESTS. A chiropractor shall not assist in any immoral practice such as aiding in the pretense of disability in order to avoid jury or military duty, or the concealment of physical disability in order to secure favorable insurance. [Order PL 235, § 113-10-040, filed 12/31/75.]

WAC 113-10-050 PATIENT WELFARE. The health and welfare of the patient shall always be paramount, and expectation of remuneration or lack thereof shall not in any way affect the quality of service rendered the indigent patient. [Order PL 235, § 113-10-050, filed 12/31/75.]

WAC 113-10-060 PATIENT DISCLOSURE. Absolute honesty shall characterize all transactions with patients. The chiropractor should neither intentionally exaggerate nor minimize the gravity of the patient's condition, nor offer any false hope or prognosis. [Order PL 235, § 113-10-060, filed 12/31/75.]

WAC 113-10-070 DEGREE OF SKILL. The chiropractor owes his or her patient(s) the highest degree of skill and care of which he or she is capable. To this end the chiropractor shall endeavor to keep abreast of new developments in chiropractic and shall constantly endeavor to improve his or her knowledge and skill in the science and art or philosophy of chiropractic, as defined in chapter 18.25 RCW. [Order PL 235, § 113-10-070, filed 12/31/75.]

WAC 113-10-080 EDUCATIONAL MATERIAL. (1) Mailing or any distribution of educational materials to the general public shall be prohibited.

(2) Direct mail to a doctor's own patient list containing educational material is permitted. At no time will patient educational material be flamboyant or showy, make promise of cure, free examination, free x-rays, free consultation, special techniques or methods, or imply superiority in any manner. Further, the patient educational material must not castigate or falsely impugn other health sciences or make claims that cannot be substantiated. The material should never contain statements of any kind that might be construed as false or misleading. [Order PL 235, § 113-10-080, filed 12/31/75.]

WAC 113-10-090 ILLEGAL PRACTITIONERS. Chiropractors should safeguard their profession by exposing those who might attempt to practice without proper credentials, and be reporting viola-

Chapter 113-10
CHIROPRACTIC DISCIPLINARY BOARD CODE OF ETHICS

WAC

113-10-010	Privileged communications.
113-10-020	Patient abandonment.
113-10-030	Consultation.
113-10-040	Unethical requests.
113-10-050	Patient welfare.
113-10-060	Patient disclosure.
113-10-070	Degree of skill.
113-10-080	Educational material.
113-10-090	Illegal practitioners.
113-10-100	Excessive professional charges.
113-10-110	Disparaging other practitioners.

tions of the laws regulating chiropractic to the proper authorities. [Order PL 235, § 113-10-090, filed 12/31/75.]

WAC 113-10-100 EXCESSIVE PROFESSIONAL CHARGES. (1) A chiropractor shall not charge a patient fees which are unreasonable or excessive. The measure of value of chiropractic services is not the value to the patient but rather is the reasonable value of the services in the community where they are rendered by the chiropractor who rendered them.

(2) A chiropractor shall not prescribe nor perform any services which are not reasonably necessary in consideration of the patient's condition and shall furnish an explanation of charges for chiropractic services upon request of the board. [Order PL 235, § 113-10-100, filed 12/31/75.]

WAC 113-10-110 DISPARAGING OTHER PRACTITIONERS. No chiropractor shall falsely malign another practitioner or a practitioner's method of practice. [Order PL 235, § 113-10-110, filed 12/31/75.]

The Chiropractic Society of Washington in 1982 published the following in their guidebook to professional practice for their state members. The author, after reviewing all 50 states' rules and regulations, is of the opinion that the Chiropractic Society of Washington guidelines give a fair representation of all 50 states.

The Chiropractor owes his/her patient the highest degree of skill and care of which he/she is capable. To this end he/she shall endeavor to keep abreast of all new developments in Chiropractic and shall constantly endeavor to improve his/her knowledge and skill in the science and art of Chiropractic.

PERTAINING TO PATIENT RELATIONSHIP

Chiropractors will at all be guided by the highest standards of moral conduct. They will exemplify these qualities in all dealings with patients, the general public and with respect to other members of the profession.

The health and welfare of the patient shall always be paramount, and expectation of remuneration or lack thereof, shall not in any way affect the quality of service rendered the patient.

Absolute honesty shall characterize all transactions with patients. The Chiropractor should neither exaggerate nor minimize the gravity of the patient's condition, nor offer any false hope.

The right of a patient to select his/her own method of getting well shall be recognized and respected. Notwithstanding, when a patient has chosen Chiropractic health service, the Chiropractor shall have a right to expect patient cooperation as a condition precedent to acceptance of the case.

The Chiropractor shall always be free to accept or reject a particular patient, bearing in mind that whenever possible he/she should respond to any reasonable request for his/her services in the interest of public health and welfare. Once he/she has accepted a patient, the Chiropractor has an obligation not to neglect or abandon the case for any reason, nor to withdraw from the case until he/she has given sufficient notice to permit the patient an opportunity to secure another professional attendant.¹⁰

The Chiropractor owes his/her patient the highest degree of skill and care of which he/she is capable. To this end he/she shall endeavor to keep abreast of all new developments in Chiropractic and shall constantly endeavor to improve his/her knowledge and skill in the science and art of Chiropractic.

ADVERTISING

The C.S.W. endorses the following rule, which was adopted by the Washington State Chiropractic Disciplinary Board on August 7, 1980:

(h) advertising for a service outside the practice of chiropractic as permitted in Washington;

(i) advertising which otherwise exceeds the limits of WAC 113-12-160.

(2) A chiropractor who advertises in any form, including, but not limited to, those forms listed in (1) above shall, upon request made by the board, provide the board with substantiation of the truth and accuracy of any and all claims made in his or her advertisements.

The CHIROPRACTIC SOCIETY OF WASHINGTON believes that advertising should be truthful and in good taste. Emphasis should be directed toward Chiropractic, not the chiropractor.

10.5 Sample Form for Obtaining Informed Consent for Chiropractic Care

Chiropractic and Medicine

It is important to recognize the difference between chiropractic and medicine. Both can be important to your health, but for entirely different reasons. Chiropractors seek to restore health through natural means without medicine or surgery. The chiropractor's purpose is to restore structural spinal health. The success of chiropractic procedures often depends upon underlying causes and conditions. It is important to understand what to expect from chiropractic and medical services so you can determine whether either or both may be of benefit to you.

Examination and Medical Referral

The examination you will receive in this office is aimed at detecting structural problems of the ligaments, muscles, nerves, discs, and bones of the spine. My examination is NOT a general medical examination and is not intended to replace your regular physical examination, but it is very important in planning proper chiropractic treatment. As a chiropractor, my practice is limited to and directed toward correction of spine and disc problems. I do not prescribe medications or perform surgery. I will know only after a careful evaluation whether I can accept you as a patient. Your condition may fall outside the scope of chiropractic care or my individual expertise. If it does fall outside the scope of my practice, I will refer you to the appropriate type of doctor. A chiropractor conducts a chiropractic analysis for the express purpose of determining whether there is evidence of spinal subluxations. When such subluxations are indicated, chiropractic adjustments are given in an attempt to restore proper spinal alignment. I will be administering spinal adjustments which are usually beneficial and seldom result in any side effects. In rare cases, however, developmental irregularities in the spine or deformities from injuries can weaken the body and increase the chance for undesirable side effects. I have explained to you any such problems that I have become aware of through my examination of you. These conditions are:

1. _____
2. _____
3. _____

If you are aware of any other conditions and you have not revealed them to me, you should do so before we begin your treatment.

Although chiropractors are experts in chiropractic analysis, they are not specialists in diagnosis. Internists are medical specialists who are highly qualified diagnosticians. Every chiropractic patient should be mindful of his own symptoms and should secure a medical opinion if he has any concern as to the nature of his illness or injury. I may express an opinion as to whether you should take this step, but you should take the initiative if you are in doubt.

Medical Prescriptions

The chiropractor provides a specialized health service and does not and should not become involved in your general medical care. You should never ask for or accept advice from a chiropractor concerning prescription medicines. The chiropractor is not qualified or licensed in medical practices.

Purpose of care and estimate of results

No chiropractor can promise you specific results. This depends upon the recuperative powers of the body. Because there are so many variables, it is difficult to give a time schedule or predict efficacy of chiropractic procedures. Sometimes the response is immediate. In most cases, there is a more gradual, but quite satisfactory response. Occasionally the results are mediocre or dismal. Two or more similar conditions may respond differently to the same chiropractic care. My estimate of the care required for your condition (length of time and number of office calls is: _____

Chiropractic care is not so exacting that I can promise you an absolute cure for your condition. My estimate of success in your case with your full cooperation is: _____

An explanation of the likelihood of relief and rehabilitation: _____

Home care and rehabilitation (Patient Participation)

I accept only those persons for treatment who agree at the outset to cooperate fully as my treatment program always requires active participation. I have found that a comprehensive approach, using intensive care for certain conditions, helps to bring faster relief and gives the most lasting results. This may involve spinal manipulation, spinal-ligament therapy, nutritional advice, muscle re-education, and toning, psychological and medical consultation, disc-extension casting, and anti-gravity disc rehabilitation. With your faithful execution of home exercise procedures the number of office calls necessary for relief of pain and correction of disabilities, can often be reduced.

Questions

If you have any questions regarding your consultation, history, x-rays, examination and proposed treatment, please discuss them with me now before you sign this agreement for treatment.

Acknowledgement

I hereby authorize _____ (chiropractor's name) to proceed with spinal adjustments and rehabilitation of my spine. The nature, purpose and possible risks and complications, approximate time required, and estimated results regarding spinal adjustments have been discussed with me and I understand what is to be involved in my treatment.

I certify I have read and understand the above and that this form was completed before I signed it.

Signature of Patient

Witness

When the patient is a minor or incompetent to give consent.

Signature of person authorized to give consent

Relationship to Patient.

FOOTNOTES

1. Chiropractic Oath from Palmer College of Chiropractic, Davenport, Iowa, 1964
2. Hippocratic Oath
3. Rowland H. Long, *The Physician and The Law*, 2nd Edition, Appleton-Century-Crofts, Inc. (1959)
4. The American Chiropractic Association, *Code of Ethics*, The American Chiropractic Assoc. (1974)
5. *ibid*
6. Palmer College of Chiropractic Notes, Instruction in Ethics and Jurisprudence, Elmer Crowder, D.C., Davenport, Iowa (1964)
7. Letter from a national chiropractic association legal dept., 1983
8. International Chiropractic Association Newsletter, *Malpractice Alert*, Vol. III, No. 2, by International Chiropractic Association, 1982, 1901 L St. N.W., Suite 800, Washington, D.C. 20036
9. Chiropractic Disciplinary Board, *Code of Ethics*, Washington Administrative Code, 1975
10. Chiropractic Society of Washington; *Manual on Professional Chiropractic Practice*, 1982

10.6 References

1. The Chiropractic Oath, issued to the author at Palmer College of Chiropractic, Davenport, Iowa
2. Hippocratic Oath
(source and translator)
3. Rowland H. Lond, *The Physician and the Law*, 2nd edition, Appleton-Century-Crofts, Inc. (1955)
4. The American Chiropractic Association, *Code of Ethics*, revised 1974, Los Angeles, California.
5. *ibid*
6. James B. Saul, B.A., D.C., *Chiropractic Ethics*, Palmer College of Chiropractic-West, Sunnyvale, California 1981
7. From the legal department of a national chiropractic association 1983
8. James D. Harrison, International Chiropractic Association, *Malpractice Alert*, published by the International Chiropractic Association, Washington, D.C. 1982
9. The American Chiropractic Association, *Code of Ethics*, revised 1974, Los Angeles, California.
10. Membership booklet regarding the practice of chiropractic in Washington State, The Chiropractic Society of Washington 1982

CHIROPRACTIC MALPRACTICE

11.1 Elements of a Malpractice Action

The rationale for recovery of damages in a malpractice suit is established negligence that results in injury to the patient. That is, if the chiropractor breaches his legal duty, which is to exercise that degree of care and skill ordinarily employed by other members of the profession under similar circumstances, there can be a valid claim for injury sustained as a result of treatment. The elements of a malpractice action are:

- A The existence of a relationship between chiropractor and patient.
- B An implied or explicitly agreed-upon duty on the part of the chiropractor toward the patient to protect the patient from injury.
- C The failure of the chiropractor to perform that duty.
- D An injury resulting that is causally related to this failure.

The burden of proof is on the patient to establish each of these elements with a fair preponderance of creditable evidence. Expert peer testimony is often necessary to determine whether at any point a proper standard of care was violated.

11.2 Two Common Issues in Chiropractic Malpractice

Many chiropractors attempt to treat medical problems and employ medical techniques for which they are not educated, trained, or licensed. This attitude might be based on chiropractic philosophy, which dictates that all health problems are due to spinal misalignments; on subconscious conflicts regarding orthodox medical diagnosis and treatment; or on the practitioner's conviction that he is indeed equal to such undertakings. Many independent studies have indicated that at present chiropractic schools do not adequately prepare their students to function as primary-care physicians compared to an osteopathic or medical physician. This author's experience in evaluating malpractice and insurance company claims has

convinced him that this over-practice constitutes a greater danger to patients and more professional disaster to practitioners than any other aspect of chiropractic.

Perhaps because the chiropractor is licensed as a doctor, the patient expects of him the same professional conduct he has witnessed in physicians, including referral when the case is beyond his scope. This is a dangerous and sometimes fatal assumption, particularly when chiropractor and patient share an excellent rapport. Many times during interviews for malpractice cases, this author has heard the patient say, "I believed the chiropractor. He seemed very sincere. He seemed to know what he was doing; so I kept on with the treatments without going to a medical doctor."

Manipulation has an accepted value for certain structural disorders of the spine and related nerve, ligament, and muscle problems involving back pain, arm and leg pain and headaches. It has become painfully apparent to many patients and objective observers that spinal manipulation for such afflictions as cerebrovascular irregularities, spinal tumors, heart conditions, lung infections, and kidney problems not only is wrongful but also can result in permanent disability by inducing direct trauma to tissue or resulting in delay of needed medical treatment. Furthermore, if a chiropractor undertakes to treat a disease for which medical science has a generally accepted, routine treatment, without fully informing the patient and offering consultation or alternate modes of therapy, the chiropractor has stepped out of his proper scope of practice and can be held to the standard of care for medical physicians.

11.3 Some Specific Cautions to Avoid Malpractice Claims

1. Knowledge of proper standard of care

When a chiropractor knows or should have known that his method of treatment would not produce a positive result, it is or was his duty to cease treatment and refer the patient to an appropriate health-care practitioner.

2. Lack of Progress

It is improper for the chiropractor to continue treatment when it should be or is apparent that the patient's condition is not improving or is becoming worse under his care.

3. Unproven claims presented as fact

It would be an unscientific and unproven statement to suggest to any patient that spinal adjustments will increase his body's resistance to infections or chronic diseases, except as part of a general health-maintenance program aimed at improving spinal-joint function.

4. Promise of cure for systemic disorders

A chiropractor must not make any promise as to any degree of success against any visceral, systemic, or metabolic disorder.

5. Declaration that methods are experimental

A chiropractor may not, in good faith, employ an experimental device or unproven treatment on a patient unless the latter has been fully informed of its unproven, experimental status.

6. Delegation of professional responsibility

A chiropractor must not delegate a professional duty or responsibility to an employee or an associate whom he knows to be unqualified by training or experience, or unlicensed.

7. Proper use of therapeutic modalities

A chiropractor prescribing ultrasound, diathermy, or heat therapy is responsible for any neglect by

his assistants in applying this treatment directly to the patient. With heat, ultraviolet, or other therapies applied the skin, this can include burning of the skin.

8. Retention of proper records
It is mandatory that a chiropractor keep specific, comprehensive records of all consultations, histories, examinations, X-rays, laboratory tests, and treatment on all patients for a reasonable length of time after their care is concluded. A suggested interval is seven years following the initial visit.
9. Responsibility for symptoms
At the initial consultation and history-taking, when a chiropractor first observes a patient's symptoms, that chiropractor accepts an implied responsibility to deal with those symptoms in all of their aspects. Often this involves open consultation with the patient's general practitioner and sometimes with an orthopedist, neurologist, internist, radiologist, or any other medical specialist whose province is those specific complaints.
10. Reporting medical conditions
With respect to medical conditions requiring treatment other than his own, the chiropractor is responsible for observing and reporting to the patient and the appropriate medical practitioner any significant abnormalities.
11. Necessary medical care
It is the final responsibility of the primary health-care practitioner to insist that the patient seek any necessary medical care. If he does not, the chiropractor should stop treatment, inform the patient in writing of this decision and the rationale behind it, and refer the patient in writing to another doctor.
12. Warning of spinal weakness
A chiropractor must inform his patient of any anomaly such as spondylosis that may have weakened the spine or predisposed it to injury during a spinal adjustment.
13. Adjusting weakened spinal areas
A forceful adjustment over an area of osteoporosis, acute sprain, fracture, or osseous instability constitutes improper care.
14. Adjusting ruptured spinal discs
To administer a forceful adjustment when there are definite signs of significant cervical, thoracic, or lumbar-disc rupture is improper practice.
15. Disturbing surgical repair
It is improper to make a forceful adjustment over an area of the spine that has been operated on recently, or after abdominal or chest surgery if there is a reasonable chance that such an adjustment will interfere with healing.
16. Alternative modes of therapy
Excessive spinal adjusting can damage joint ligaments and create joint roughening or arthrosis, and it is improper for a chiropractor to continually adjust a patient for whom exercise or other rehabilitation therapy would be a reasonable alternative.
17. Vitamins as medicines
This author has briefly reviewed many cases in which chiropractors have prescribed various vitamin and mineral substances for a multitude of specific patient complaints, such as heart conditions,

ulcers, colon problems, and allergies, routinely treated medically with prescription drugs. The courts have established that any substance prescribed by a primary health-care practitioner for a specific complaint, even a non-prescription vitamin, legally becomes a medicine. Thus the chiropractor who issues such prescriptions can be charged with practicing medicine illegally.

18. Proper gowning of patient

It is improper for a chiropractor to examine a patient who has not been undressed and/or properly gowned.

19. Preparing the patient for X-ray

All clothing and jewelry should be removed for X-ray studies. Failure to do this could interfere with diagnosis.

20. X-Ray exposure—pregnancy

Extreme caution must be taken in X-raying any pregnant woman. A chiropractor may be liable for injuries to the fetus if it is determined that there was no emergency requiring X-ray examination, or if the woman was exposed to excessive radiation.

21. Pregnancy—the use of electrotherapies

This author has reviewed cases in which ultrasound and diathermy were applied over the lower back of female patients in the early weeks or months of pregnancy. There are specific contraindications to the use of certain electrotherapies on this region of the spine during pregnancy. Such use, if no emergency commands it, is considered a violation of proper practice.

22. Electrotherapy—children

The use of medical electrotherapy on infants and children is a violation of standards for reasonable care.

23. General medical examinations

It is improper for a chiropractor to attempt to perform a certified medical physical examination, or to diagnose a gynecological, breast, prostatic, or other internal problem in any state where the legislature has not specifically granted him such privileges.

24. Managing medical conditions

It is not considered proper practice for a chiropractor to attempt to treat or manage a specific medical problem, such as high blood pressure, a heart condition, or diabetes, unless the patient is receiving concomitant medical care.

25. Attempts to practice psychotherapy

It is considered improper, illegitimate practice for a chiropractor to attempt to treat a patient for an emotional or psychological disorder, particularly using hypnosis or any regressive therapy, without a specific degree and license as a clinical psychologist or medical psychiatrist.

26. Obstetrics and gynecology

The practice of obstetrics and gynecology by a chiropractor is considered improper care in most states.

27. Chiropractic pediatrics

The treatment of diseases of infants and children is a complex undertaking that for the untrained holds many surprises and dangers. It is considered improper care for a chiropractor to style himself a

chiropractic pediatrician, professing a medical ability to detect and treat childhood infections and other specific disorders of the young.

28. Childhood scoliosis

There is no scientific proof that chiropractic care is effective in the treatment of childhood scoliosis. Thus it is malpractice to attempt to treat this condition without obtaining, for the patient, an orthopedic consultation.

29. Skin-temperature readings

It would not be a proper scientific statement to claim that certain devices for reading skin temperature can determine the presence or absence of nerve pressure in the spine.

30. Misleading promotional brochures

For years certain sectors of chiropractic have widely dispensed educational brochures and assorted literature proposing to patients and the public that chiropractic is efficacious against various internal disorders. These unproven, unscientific proposals constitute malpractice by violating the good-faith concepts of truth in advertising and informed consent.

31. Patient assault

Any criminal conduct, such as assault and battery, the use of alcohol or drugs impairing the practitioner's ability to exert reasonable judgment, or sexual molestation of a patient, leaves a practitioner with no defense in a malpractice case where it is determined that the patient has been injured physically, socially, or emotionally.

11.4 Malpractice and Chiropractic Promotional Literature

Since the inception of chiropractic, some practitioners have attempted to attract patients with promotional literature. This is of no harm provided that what is written about chiropractic is accurate. Unfortunately, often it is not. Chiropractic promotional literature is replete with unproven statements and anecdotal patient testimonials asserting positive results for nearly every medical condition.

Such material often demonstrates blatant disregard for the fact that it is improper and unethical practice to use literature that may induce a person to seek chiropractic care for a condition requiring medical attention. Medical and chiropractic health educators maintain that it is the responsibility of the chiropractor to promote his health care services only for spinal conditions that have been proven to resolve under chiropractic care. The following is an example of misrepresentative literature.

Good parents are always concerned when their children fall and suffer cuts, bruises and other injuries. They'll tend to the cuts and feel that they have performed their duty. And in the process they completely overlook the possible long range damage to the spine which may not show up until many years later.¹

Children may have a spinal defect without knowing it. The spinal injury or defect that occurs is not always dramatic. It often occurs subtly and grows worse with time. Children do not usually recognize health problems. As a result, most spinal defects suffered by children are unknown both to the parent and child. And to make the spinal defect even more mysterious, when the problem grows serious enough that pain is felt, it often occurs in a part of the body not ordinarily associated with the spine.²

Chiropractic's Role

This is the kind of unhappy situation children can face if the spinal problem is not located and corrected. Since the chiropractor alone is trained for this, he must be consulted so the basic condition can be determined and fixed.

We all want our children to grow up healthy and strong. Rather than risk the delayed effects of a spine distortion, the hidden malady, take your children to a chiropractor soon. It's relatively easy to start a tree growing straight when it's young.³

Public relations firms and some official chiropractic organizations public brochures promoting chiropractic treatment for allergies, arthritis, asthma, colds, colitis, constipation, eye trouble, hay fever, high blood pressure, heart conditions, kidney trouble, rheumatism, sinusitis, skin eruptions, and stomach trouble.

Chiropractic care can offer relief of pathology in remote parts of the body. Organic atrophy, chemical imbalances, accumulation of toxins and lowered resistance to germs are among the possible results of such nerve function changes. Often chiropractic adjustments result in halting and reversing the condition, provided that the disease has not progressed too far.⁴

Another advertisement states:

True science is based on logic. Chiropractic is a logical approach to health problems. A Doctor of Chiropractic searches for the real cause of your health problems. He doesn't settle for symptomatic relief. He plans for a course of action that restores health by removing the cause of the problem. . . .⁵

This same advertisement, which appeared in a newspaper, stated further on that a chiropractor is a general health-care practitioner:

Bring your health problem (no matter what it may be) to a DC (Doctor of Chiropractic). You've nothing to lose, except your pain and your problem, and everything to gain.⁶

It concluded with the following:

Last year more than forty million people saw doctors of chiropractic about every kind of health problem.⁷

Below are excerpts from a letter issued as a mass mailing that offered testimonials to the efficacy of chiropractic treatment. The letter violates a proper standard of care by stating that chiropractic treatment is effective for medical conditions, and that other health-care practitioners do not believe in the body's ability to regenerate itself.

Chiropractic is a distinctive approach to health. One that goes to the cause of the problem.

Did you know that most health practitioners do not believe your body has the ability to regenerate good health? Consequently, they don't even try to eliminate the cause; they concentrate on smothering the symptoms.

Chiropractic eliminates symptoms by correcting the problem at the source. This not only eliminates the symptoms, it allows the body to maximize its tremendous recuperative potential.⁸

Louis Sportelli, D.C. in his popular patient education booklet entitled, "Introduction to Chiropractic-A Natural Method of Health Care, in a section devoted to chiropractic care for children writes, "The strains to which children are subject can easily be a contributing factor in creating spinal distortions (subluxations) and nerve interference. Throughout this introduction booklet, we have tried to demonstrate that many conditions can be caused by spinal misalignments and irritations of the nervous system. Clinical evidence suggests that common disorders of childhood such as colds, constipation, enuresis (bed wetting), and other childhood conditions can be helped through spinal manipulations (adjustments) if they are a result of neurological interference."⁹ In another section of the booklet He states, ". . . Other functional disorders such as those that involve organs and internal glands, of the body may also respond to chiropractic adjustments."¹⁰ In our early discussion, it was stated that every gland, organ, and body tissue needs a nerve supply or some form of stimulation from the nervous system. The conditions which doctors of chiropractic treat can be as varied and as vast as the nervous system itself."¹¹ In discussing health maintenance Louis Sportelli, D.C. writes "Regular spinal adjustments are a part of your body's defense against illness."¹² None of these statements have been proven by any reliable research, chiropractic or medical.

Excerpts from another promotional letter read as follows:

Dear Neighbor:

This letter entitles you to \$20.00 off an examination at our new, conveniently located health center, phone number 555-1000 for an appointment.

Here are testimonials from some of our happy, satisfied patients!

ASTHMA—Having had acute bronchial asthma for eleven years, I've received many treatments, including hospitalization. None of them provided any adequate relief. Then a year ago, I started going to Dr. Jones and *I haven't needed any medication since!* I must admit I was rather skeptical at first since I had no relief previously, but was intrigued when I learned of chiropractic's realistic approach to healing. Further, I go by Dr. Jones's fine reputation. He's enabled me to live a much happier and healthier life. I recommend his services highly!—Ms. C.S.

ARTHRITIS—I came in for ulcers, but also suffered from rheumatoid arthritis, really bad headaches, allergies, indigestion and a bad pain in the stomach. I have been under care for five months and have *no problems* as long as I remain in adjustment!—Ms. V.M.

ALLERGIES—My condition was hay fever . . . allergies to dust, pollens. Antihistamines in higher and higher doses failed. After chiropractic care the result was *no sneezing or pain in the sinus area.*—Ms. L.D.

Cramps—I suffered from cramps and low back pain too for ten years. Medical doctors shaved and taped my body, put me in a brace and gave me drugs, but nothing really worked until Dr. Jones began using the chiropractic approach to healing. *The cramps and pain are gone!*—Ms. V.M.

HEARING PROBLEMS—My hearing has increased since I began seeing Dr. Jones; also my headaches are gone and so is the pain in my right hip and in my legs!—R.D.O.

MENSTRUAL PAIN—All my life I've experienced such terrible menstrual pain I was terrified when the time came around! I had awful cramps and backaches at that time. I was feeling so bad and depressed all the time and wondered what reason I had to live. Now, after chiropractic care I absolutely have no more sore throats or sinus trouble. No more headaches or aching eyeballs. And that happened after my first adjustment. . . . *My menstrual periods are getting easier and my legs don't bother me.*—Ms. B.A.

MIGRAINES—Twice a month or so I had migraine headaches and dizziness. The pain was so bad I would vomit. Now, after chiropractic care, *I experience no migraines.* Ms. B.J.

NUMBNESS—In November, 1974, I experienced severe numbness in my hands. I went to see M.D.s but *it was Dr. Jones's chiropractic care that brought relief.*—Mrs. R.B.

PAIN—I had such severe pain in my lower back it affected my ability to walk. M.D.s provided drugs but they didn't really help. Finally I found relief with Dr. Jones's chiropractic care.—Mr. J.C.

SINUS PROBLEMS—My son, Jason, had to carry a tissue everywhere and had trouble breathing. Allergy sprays and pills didn't work. *Chiropractic has stopped his runny nose*; he breathes much better.—Ms. D.R.¹³

Other brochures have proposed chiropractic treatment for diabetes, high blood pressure, and other serious medical conditions:

It is possible to have nerve interference of a type that ultimately inhibits normal pancreatic function.⁴

Nerves aid in control and coordination of arterial functions as they do in all vital organs. High or low blood pressure may be indicative of abnormal nerve functions.¹⁵

Your doctor of chiropractic is thoroughly trained and disciplined to offer you a comprehensive health service.¹⁶

The use of anecdotal testimonials, newspaper advertisements, and promotional literature asserting that chiropractic is effective in treating internal, metabolic conditions is improper promotion of unproven practices. Such literature often leads the unwary public away from legitimate care. There is no defense for promulgating such misinformation; there is no scientific proof that chiropractic is effective against anything other than mechanical problems of the spine associated with joint disrelations and nerve-root irritation that may affect the neck, middle and lower back, and extremities.

11.5 Cases of Alleges Chiropractic Malpractice Involving Children

1. The prescription of cabbage leaves for mental retardation

In this case a chiropractor convinced the parents of a six-year-old that placing boiled cabbage leaves on his skull would assist his brain and body in overcoming mental retardation. The author had only one conversation with the attorney in this case, and does not know the outcome.

2. The administration of enemas for colon problems

This case was referred to the author by a state attorney general's office, which was acting on a complaint from a friend of the couple involved. The parents were having their eight-year-old girl treated with enemas by a chiropractor three times per week for an extended period. The parents were convinced that the treatment was helpful and refused to have the child examined by a pediatrician. The enemas in themselves may have been relatively innocuous, but a psychologist with whom the author consulted suggested that there could be disturbing emotional consequences of the long-term administration of such treatment. The author did not receive a follow-up report on this case and does not know its conclusion.

3. The treatment of an upper-respiratory condition and tonsilitis

A mother had reported her daughter's chiropractor to the state chiropractic disciplinary board following unsuccessful treatment of tonsilitis. She stated that the chiropractor had assured her that adjustments and dietary changes, including high dosages of vitamins C and A, would cure the condition.

This case brought home to the author the powerful influence that any clinical setting has on people: even in near-emergency situations, it can instill a faith that is often unjustified. The attorney reported that no harm was done except for the pain involved in the neck adjustments and the inconvenience and cost of the care, including the expensive vitamin supplements that the chiropractor prescribed and sold. This case was settled in favor of the plaintiff before depositions were taken from medical witnesses.

4. Treatment of a vaginal disorder in a fourteen-year-old

A chiropractor had convinced a parent that spinal subluxations were often the cause of menstrual and other vaginal disorders confronted by children during puberty. The mother agreed to a trial period of treatment for her daughter. The practitioner did a breast and vaginal examination and proceeded with a series of treatments. Sometime during the regimen, the mother became anxious and consulted her family medical doctor, who suggested that she see an attorney and file charges against the chiropractor. The author did not give a deposition or affidavit in this case, but it was settled in favor of the plaintiff.

5. Skull molding or occipital adjusting for muscular dystrophy

The author was asked to give an affidavit in this case stating whether in his opinion there was any scientific chiropractic proof that adjusting the skull bones would cure or ease muscular dystrophy in an eleven-year-old girl. The chiropractor had been using a technique that involved adjusting the skull bones with a thumb contact through the mouth. The adjustments had been painful for the child, and no progress was noted. The author later learned that the case was dropped and the chiropractor not disciplined by his state board for violation of practice standards. The girl was not permanently harmed, but her mother was anxious about whether the treatment was appropriate and if it would be helpful; thus she requested an opinion of the state chiropractic board. She did not consider their answer satisfactory and consulted an attorney.

6. Electrotherapy for a medical diagnosis of jaundice in a newborn

On the advice of three medical physicians, a chiropractor was directed by a court to cease treatment of a two-and-one-half-week-old baby thought by medical doctors to have a life-threatening infection that caused jaundice. A medical physician who examined the infant found signs of serious underdevelopment, including abnormally low weight and dehydration. The medical contentions were that a chiropractor is not qualified to make a differential diagnosis of a child; and that this practitioner's theory—that a muscle spasm causing hyperactivity of internal organs was the problem—had no basis in fact. The chiropractor and the parents claimed that the infant was making progress, but a child protection agency became involved and petitioned the court to have the baby hospitalized for medical treatment. The chiropractic regimen had included massage, ultrasound treatment of the baby's groin to relieve muscle spasm, and home administration of enemas for dehydration. The examining pediatrician told the court; "The baby wasn't receiving adequate or appropriate treatment for his illness."

Despite opposition from the parents, the court ordered that the infant be hospitalized and treated medically. After hospitalization the child showed signs of general improvement including weight gain, and treating physicians suspected that the infant had neonatal hepatitis, a fairly serious disease. The author was not informed of the outcome.

7. Mega-vitamin therapy for emotional disorders

The author has reviewed several cases in which high dosages of B vitamins and other substances combined with a specialized diet have been prescribed for child mental retardation and emotional disorders such as schizophrenia. He has not been involved in any such case that reached the stage of deposition or trial.

8. The treatment of idiopathic scoliosis in a thirteen-year-old-female

The chiropractor in this case applied a molded plaster cast with the patient in an extended position to straighten and brace the spine while the child grew. The parents were assured that with this method of correction surgery would not be necessary and the girl would not be left with a deformed spine. After approximately 18 months of plaster molding and spinal adjustments, X-rays showed very little change, and the parents consulted a medical physician. He suggested that they file a complaint through an attorney for inappropriate treatment of the girl's condition.

The author has reviewed several such cases in which chiropractors have attempted to cure juvenile scoliosis with adjustments, exercises, vitamin therapy, and plaster-cast molding. He knows of no studies indicating that these procedures are at all effective or superior to medical treatment for this condition. Plaster casts can legitimately be used to correct scoliosis, but this is best attempted by a medical orthopedist. The danger, of course, in applying an unproven treatment for this type of scoliosis is that once a certain interval has passed and the vertebral growth plates have closed, it is often too late for any procedure other than surgery. As in other childhood conditions that are misdiagnosed or inappropriately treated, the danger is not so much of trauma to the individual from the treatment, but that of irreversible damage from delay of proper therapy.

This case was settled in the preliminary legal stages in favor of the plaintiff.

9. Death of an eight-year-old boy following electro therapy

The author received very little information about this case, but it involved the death of a child undergoing treatment at a holistic chiropractic clinic for some form of cancer. The chiropractors were using mega-vitamins and electrotherapy in an attempt to arrest progression when the child died. The medical physicians who spoke with the parents suggested they file a complaint, but the author has not been informed of the outcome.

11.6 Chiropractic Malpractice Related to Auxiliary Procedures

This author has reviewed very few malpractice cases involving auxiliary therapies. Only one, concerning the use of electrotherapy over the lumbar spine of a woman in early pregnancy, could be considered serious. It is the author's experience that such cases usually center on one or more of the following points:

11.6.1 Allowing the Patient to Regulate his own Therapy

This most often involves instructing a patient on how to operate a instrument, such as a diathermy, ultrasound, infared, or traction device, and then leaving him unattended.

11.6.2 Over-Application

The patient suffers body-tissue damage from overexposure to ultraviolet radiation or trauma from over-utilization of mobilizing traction.

11.6.3 Application of a Modality Despite Contraindications

This occurs, for example, with the use of ultrasound on a patient wearing a pacemaker, or over a tumor or an area of vascular weakness.

11.6.4 Applying the Wrong Therapy Following a Misdiagnosis

Therapy is administered for lower-back pain thought to result from sprained ligaments but later discovered to be referred from a bladder or colon problem.

11.6.5 Applying a Modality Inappropriate for the Condition Diagnosed

This could involve the application of ultraviolet therapy for skin cancer or colon therapy for acute appendicitis.

11.7 Excessive Chiropractic Services

Excessive chiropractic services could be generally defined as services performed that the patient did not need to recover from the condition he presented. They might include introducing supportive orthopedic devices, physiotherapy, and vitamin supplements, as well as routine spinal adjustments.

For purposes of this discussion, the questions of overt fraud, entailing bills for services not rendered, and of unreasonable fees for specific procedures are omitted. Fees vary widely, with personal and regional economic factors, for example; and there may be other pecuniary issues among practitioner, client, and possibly a third party that do not belong in a discussion of proper treatment.

It is extremely difficult to say just how much treatment is reasonable or appropriate for a spinal condition. When a clinician treats the spine, he is working not just with bones, but also with muscles, ligaments—and emotions. A person can not simply be apportioned into parts for piecemeal therapy. Furthermore, because of the inestimable subjective factors, there is a tremendous challenge involved in treating pain syndromes associated with structural spinal problems. Determining the point of diminishing returns for therapy becomes at best the result of experience, intuition, and an educated guess. In some cases the need for psychological support alone is reasonable justification for continuing treatment until the client can accept the limitations his injury imposes.

Chiropractors routinely treat clients for tension and psychosomatic disorders related to neuromuscular function upon which patient/practitioner empathy has been shown to have profound effects. This binding relationship can exist for an extended time unless a third party intervenes and suggests another approach. On occasion such prolonged treatment may entail unproductive dependency and actually perpetuate a physical problem that other, perhaps medical therapy could resolve.

Another pertinent issue is chiropractic philosophy. One must remember that the foremost belief of the chiropractor is that spinal subluxations are a primary factor in disease; thus his overriding purpose is to clear the spine of *all* such misalignments. There is, of course, some purposeful bill padding. Nevertheless, this author's experience in reviewing cases, coupled with a thorough understanding of chiropractic has caused him to conclude that most so-called excessive service is a consequence of chiropractic theory and does not represent conscious attempts to prolong treatment.

The defending chiropractor's records must include a careful history, examination data, progress notes on the therapy administered, and the number, kind, and frequency of services rendered, set down in such a manner that they are readily comprehended by his peers and others in related professions, such as orthopedists performing similar therapies.

11.7.1 Some Typical Components of Cases Involving Excessive Chiropractic Services

- A Elaborate, detailed chiropractic and orthopedic examinations with few positive tests.
- B No demonstrable osseous trauma on spinal radiographs.
- C Subjective treatment based on a somewhat elaborate, but esoteric and unproven system of spinal diagnosis.
- D Encouragement of client dependency and disability by suggestions of need for treatment and continued empathetic physical contact. ✓
- E Prediction of significant, permanent spinal impairment despite objective medical evidence to the contrary. ✓

11.7.2 Excessive-Services Cases

The story common to many of the following excessive-services cases is that treatment was instituted with specific goals but as time passed both practitioner and client lost sight of these objectives. All cases reported below are real, but names and places have been changed to ensure confidentiality.

Case 1

To: David J. Right, Attorney at Law
From: John Brown, M.D.
January 3, 1980

This case involves a 21-year-old female, Sally, who was involved in a rear-end automobile collision in 1977. She was a passenger in her brother's car, and they were stopped in preparation of making a left turn when they were struck from the rear by another car, estimated to be traveling 35 miles per hour. Sally's mid-frontal region of her skull hit against the front windshield and her right hip hit the door handle on the passenger's side. She reported that she was briefly dazed, as she did not immediately answer her brother when he asked if she were O.K.

She was able to get out of the car to inspect the two vehicles, but she was later placed in an ambulance and taken to an emergency room for treatment. It was there that she reported her headaches, the sudden neck pain that immediately followed the impact, feelings of weakness in her neck muscles, right hip pain, low back pain, and discomfort between her shoulders. Doctors in the emergency room noted a bump which had developed on her forehead, but they did not x-ray her skull or neck. She also had a bump on her leg, but x-rays of the leg failed to reveal any fractures. She was sent home with instructions to see an orthopedic doctor if her complaints did not resolve.

About three weeks after the accident she began to feel worse and she returned to the hospital where she was initially examined. The pain in her neck and the headaches began to interfere with her concentration at work and prevented her from pursuing her usual recreational activities. She was given hot packs for her neck pain, spinal manipulation, and ultimately she was referred to a physical therapist who worked on her entire spine. After approximately six months of treatment, of unknown frequency, she claimed that she felt no better; so she discontinued the therapy and in April 1978 consulted a chiropractor.

Past Medical History

Sally's general health was excellent with no past problems of headaches, neck or back pain.

Medical Opinion Diagnosis Treatment

Systems Review: Completely negative except for the parts in musculoskeletal and C N S (central nervous system) which have been dealt with.

Physical Examination: In general, the patient is a rather slim, 19-year-old woman. *Eyes:* Pupils are of equal size and react normally to light. There is no nystagmus present. *The cranial nerves:* Motor function is intact. *Neck:* Range of motion—the extremes of rotation to the right and to the left both bother her, as does hyperextension of the neck and hyperflexion. She is tender between the spinous processes of C 3-4 and 4-5 approximately. Also, she has some tenderness and some spasm in the erector spinae muscles on both sides of her cervical spine.

The rest of her back: Thoracic spine—she has some tenderness on percussion at about T6 or 7. Also she is tender over the lumbosacral joint. *Posture:* She has an increased lordotic curvature in the

lumbar area and possibly slightly increased dorsal kyphosis. *Gait:* She walks without limping and is able to walk on both her heels and her toes without limping.

Neurological: Upper extremities—deep tendon reflexes, biceps, triceps, and brachioradialis are all equal in both upper extremities. Sensation appears to be the same when checked with a pinwheel. Two-point discrimination is good in all fingertips. Hoffman reflexes are negative bilaterally.

Lower extremities: Infrapatellar and Achilles tendon reflexes are 2+ bilaterally. Sensation is the same throughout both lower extremities. Vibratory sense is present in all four extremities. Babinski reaction is negative bilaterally. Goldthwait Test is negative bilaterally.

Examination in the supine position: Straight leg raising is negative bilaterally. Apparent leg length is equal. There does not appear to be any muscle atrophy in either lower extremity. Faber and reverse Faber Tests are negative bilaterally. There is no weakness of anterior tibial or EPH muscles.

Examination in the prone position: She is quite tender over the lumbosacral interspinous ligament; also she has some tenderness at about T7 to T8. Spurling Test is negative bilaterally. Hyperextension of the back in the prone position also caused pain in the low back.

X-rays: Ap Scout view of the pelvis and lumbar spine shows that she has five lumbar vertebrae. There is some tilt of the lumbosacral joint and a compensatory tilt with a mild scoliotic curvature of the apex being toward the left. This curvature is 10 degrees. She has a mild compensatory curve in the thoracic spine. In checking with a plumb bob, her spinous processes of the cervical region are directly over the pelvis; so that her curves completely compensate one for the other.

AP Spot of the lumbosacral joint once again shows asymmetry of the lumbar 5 vertebral body. Lateral of the lumbosacral spine shows good disc spaces throughout and quite a normal lordotic curvature, actually. This, I do not believe, was taken in the standing position.

The lateral of the thoracic spine shows normal appearing thoracic spine. Lateral of the lumbosacral joint appears normal. AP of neck shows that she has bilateral cervical ribs on the seventh cervical vertebra.

Neutral lateral view of the cervical spine shows a distinct reversal of the lordotic curvature with the peak of the reversal at C5–6. Judging by this, I believe that the tender areas were probably C4–5 and 5–6. This reversal of the curve, of course, is due to muscle spasm.

The flexion lateral shows no gross instability. The extension lateral shows slight backward slipping of C4 on C5, which would coincide with her point of utmost tenderness. The disc spaces are all well preserved on the laterals, and no degenerative changes are noted.

Opinion: Soft tissue sprain of the cervical and, to a lesser extent, the thoracic and lumbar spine.

Treatment: Because of a continued muscle spasm in this neck, she is going to need some more physical therapy. Also, I believe that cervical traction would help her, because when I put manual traction on her neck, it seemed to make her feel better. I think if she had a cervical traction rig at home and could sit in cervical traction for a half hour each evening, it would be good for her to relax after the tensions of the day.

So far as prognosis is concerned, this type of injury is notoriously slow at getting better. She has a mild tear of the anterior-longitudinal ligament at C4–5 added to the other soft tissue injuries of her neck, and consequently her muscles are called upon to do a great deal more than they were prior to the injury.

She will just have to have continual treatment as necessary for quite some time, and we would not want to give a prognosis with regard to her case until at least one year has gone by.

P.S.: I also believe that postural exercises for her lumbosacral spine are in order to get here to get rid of some of the lordotic curvature which she has at the present time.

Brown to Right
April 12, 1980

It was our privilege to see Sally in the office today and the following is a record of her update history and physical examination.

At the present time she is still having pain in the neck and some pain in the shoulder blades as well. Also she has noticed that her right hip is painful at times; especially after she has ridden her horse and she gets off, the right hip hurts her.

Examination today shows complete range of motion of the neck in all directions. On palpation of the neck she has tenderness at C2-3, C3-4 and also some tenderness over the greater occipital nerve on either side.

In the thoracic spine she is exceedingly tender at about T5-T6 and she is not tender at all in the lumbar spine. She has complete range of motion of her back in all directions.

In checking her hips, she has a good range of motion, but on the right she is tender just above and behind the greater trochanter; there the gluteus maximus inserts on the trochanter.

She has headaches at times, but not nearly as often as she has in the past. She says that an adjustment of her neck relieves the headache and she does not have another one for about 1-1½ months thereafter. She definitely is making progress. She has not worked out of the home since December, 1977, and she is hoping that she will get well enough to go back to work in the near future.

She reports that she has been doing the back exercises that we ordered the last time she was here.

X-rays: On flexion lateral view of her neck, she has a little instability at C3-C4 and a little at C2-C3. On extension she has no instability at any level. These findings are somewhat different from the findings when we saw her first and at that time she had a backwards slippage of C4 on C5 and now it is a slight forward slipping; however, this is very slight and could point to soft tissue damage in the area of the posterior longitudinal ligament.

It has been more than three years since her accident, and I believe that we pretty well would have to accept her condition at the present time as stabilized and she will continue to have some problems from time to time as she is having problems at the present time.

So far as the hip is concerned, I believe that she has a mild trochanteric tendonitis, right hip. I believe that this would respond to steroid injections in the area.

To: David J. Right, Attorney at Law
From: D. B. Littlefield, M.D.
August 20, 1981

This 21-year-old female states that she was involved in an automobile accident, January 17, 1977, when the car which was driven by her brother was stopped at an intersection near her home in Greenwater.

At this point, the vehicle was rear-ended, and as a result of the impact, Mrs. Johnson struck the mid-frontal region against the windshield. She also struck the right hip against the door handle. She states that she perhaps was briefly dazed because she remembers the driver's telling her that he asked her a few times if she were O.K., and she did not answer immediately.

She states that she had to get out on the driver's side of the car to inspect the vehicle. An ambulance came to take the driver of the rear car to the hospital (bleeding laceration). Mrs. Johnson was also placed in the ambulance, and she was told to lie down. She developed a lump in the mid-frontal region of her head.

There was immediate onset of neck pain with a sensation as if she could not hold her head up. In addition, there was a lot of right hip pain, low back pain radiating upwards, together with dorsal interscapular discomfort.

She states that she saw Dr. Smith, a general practitioner, on some 12 occasions, but she had to wait in the waiting room for two hours on repeated occasions, and she was referred to a physiotherapist, whom she saw three times a week, a total of about 12 times. She was treated with traction. Her right hip continued to hurt, and the physiotherapy was of no help.

She saw Dr. Brown of Greenwater towards August of 1978. She has seen him on some four occasions, the last time in May of 1981. In August of 1977, she quit the physiotherapy which had been prescribed, and she went to Chiropractor Canbridge who has treated her ever since—initially four times a week, and then gradually lessening to once—twice a week, and he is still treating her, once—twice a week, depending on her level of activity. She has not seen any other physician. Dr. Canbridge did not obtain any consultations. She states that she went to Dr. Brown on her own.

Her present symptoms are described as follows: She has neck pain about five days a week, and this keeps her awake at night, and she tosses and turns. She has no pain in the upper extremities. There is no motor or sensory loss, ataxia or incoordination in the upper extremities.

There is cervico-occipital headache, and she has a headache with a frequency of about 3–5 times a week, lasting a few hours.

In addition, there is interscapular pain, about three times a week.

Her right hip bothers her, depending on the level of activity, and there is right hip pain when she has been riding her horse. Initially, there was right hip pain all the time, but the chiropractor got it adjusted.

Her low back pain bothers her occasionally, and her right lower extremity may cramp when her right hip is sore.

Specific neurologic inquiry reveals no motor or sensory loss, ataxia or incoordination involving the lower extremities.

Ms. Johnson states that she used to work, at the time of the accident, and she was employed as a printer. Her job consisted of feeding paper into a Xerox machine. She had been employed in this capacity for about a year and a half prior to the accident, and she states that she quit in March 1977, because she was worn out and sick all the time and she had never been sick before in her life; she had been very healthy. She has not worked since.

She states that she has now improved, as compared with a year ago, and that she is still gradually improving.

She also developed a bout of shingles, involving the left dorsal region, in the summer of 1979, manifested by pain and itching, which subsided completely. She was told that this might well be due to the accident.

She denies cardiovascular, respiratory, G.I., or G.U. problems and states that she has had no operations and that she has not been involved in any other accidents and has not suffered any other injuries. She has a high school education but no college as yet. She states that she is interested in many various subjects and that she is still trying to make a choice and that she eventually wants to go to college. She has no children. She married a carpenter with three siblings.

Mrs. Johnson states that she goes to exercise class twice a week, at a dance studio, and does stretching and other exercises. She states that she cannot bend as well as the other girls. She has been doing back exercises at home for quite some time, upon Dr. Smith's instructions.

Examination showed a 21 year old, 5' 4¼", 136 pound, right handed female, who sat, stood and walked without apparent list, limp or guarding. The extra-ocular movements, pupils and fundi were normal. There was no nystagmus. The Vth and VIth cranial nerves were normal.

The deep tendon reflexes in the upper and lower extremities were equal and active. There were no pathological reflexes.

Mrs. Johnson's speech was slow, well articulated, and deliberate.

Muscle strength in the upper and lower extremities was normal throughout, while heel and toe gait, in the lower extremities was normal. She was able to squat without any difficulty or displaying tenderness.

The finger-nose test and single leg standing with the eyes open and closed were normal.

The cervical spine showed 90° in each lateral rotation; 40° in each lateral bending; 30° in extension. There was no tenderness in extreme positions.

There was suboccipital tenderness. There was no spasm in the cervical or dorsal paravertebral region. There was tenderness in the mid-dorsal interscapular region. There was a normal range of motion so far as the dorsal spine was concerned.

The lumbar spine showed no tenderness nor spasm. There was a somewhat exaggerated lumbar lordosis, normal for a female in this age group. The lumbar spine showed 90° flexion; 30° extension; 30° lateral bending 30° rotation. Straight leg raising, with the patient in the supine position, was 90°, bilaterally, and on the right side some right trochanteric tenderness was elicited. The Spurling Test was negative, bilaterally.

There was tenderness over the right greater trochanter, signifying trochanteric bursitis. There was a two inch keloid over the left lateral upper thigh, in an oblique position. There was a two inch keloid over the right anterior lower leg.

The circumference of the right forearm measured one half inch more than the left, while the circumference of each leg measured equally at equal levels.

Appropriate x-rays were carried out, and a detailed report is attached. No remarkable abnormalities were seen in the cervical, dorsal, or lumbosacral region. Films of the right hip—greater trochanter were unremarkable.

Impression: There is a history of chronic cervical and lumbodorsal strain. In addition, there are signs of right greater trochanteric bursitis.

Mrs. Johnson has received a very generous amount of chiropractic maneuvering (approximately 300 times?), in addition to physiotherapy prior to this.

There are no positive objective findings so far as the cervical, dorsal and lumbosacral regions are concerned. There is right greater trochanteric bursitis, which often does respond to a series of steroids—local anesthetic injections.

On the basis of objective findings, I do not find any partial permanent impairment.

X-ray Report:

Cervical spine: Seven films of the cervical spine were carried out, including stress films in flexion and extension. There is no abnormal motion during flexion and extension, and a good range of motion is noted of the cervical spine during extreme positions. The disc spaces are well preserved. There is no subluxation or dislocation. The AP and odontoid views are normal.

Right hip: Two views of the right hip show no abnormalities; specifically there is no calcification surrounding the greater trochanter.

Thoracic spine: Two views of the thoracic spine show the disc spaces to be well preserved. There is a normal contour of the thoracic spine in the AP and lateral views. There is no significant or notable hypertrophic change.

Lumbosacral spine: Five views of the lumbosacral spine show mild dextro-scoliosis in the low lumbar region. There is no spondylolysis and there is no spondylolisthesis. The disc spaces are well preserved, and a spot film of the lumbosacral interspace verifies this. There is no narrowing at the lumbosacral interspace. The AP and lateral films are, otherwise, unremarkable.

To: David J. Right, Attorney at Law

From: D. M. Canbridge, D.C.

July 6, 1979

Sally presents an unusual case, and I may have underestimated her treatment needs at the time of the original examination.

After working with her, we can see that the approximately 50 mph impact did more overall damage than we first anticipated.

She does respond to treatment, but the ligament damage throughout the entire spine does not allow the spine to normalize for any great length of time; so close follow up treatment is needed. I believe that there may be some permanent disability in this case, but I am unable to tell just how much disability at this time.

History: The above captioned patient came to this office on August 20, 1979, for examination and treatment of an injury she received due to an auto accident January 17, 1977. She had received prior medical and physiotherapy treatment. On entrance she complained of neck pain and stiffness, a head that feels very heavy, and she is now having headaches 1 to 2 times per week, [and] lower back pains that switch from side to side. In fact the entire spine feels very uncomfortable. She also has digestive disorders and constipation.

Presently her major complaint is stiffness on the left side of the neck with mid back pains that radiate out into the right side of the rib cage, and intermittent low back pains on certain motion.

She took a leave of absence from work on March 14, 1977, because of the spinal pain and headaches; to present she has not returned to work.

She finds it very difficult to enjoy any of her past activities of horse training, riding, motorcycling, and general work around her home without causing her back to hurt after a short period of time.

Objective findings: Examination on May 4, 1979. Taut and tender fibers in the cervical musculature. Taut and tender fibers in the dorsal musculature. Tenderness at spinal levels of IC, 4C, 5L on palpation. Grip test right hand 110, left hand 130. Patient is right handed. Deep tendon reflexes biceps, triceps, and patellar normal and balanced. Foramina compression test mildly positive. Cervical extension moderately painful. Kemp's sign positive. Cranial nerves normal and intact. Height 5'4¼". Weight 131 lbs.

X-rays: Views taken August 7, 1977; December, 1978; July, 1979. No apparent spinal fractures or malformation being evident. Multiple vertebral misalignments at occiput/1C, 4C/5C, 5T/6T, 4L/5L, and 5L/SI. On June 3, 1980, views of the atlas angle are 14° (normal is 0°), sacral angle is 50° (normal is 36° to 38°). Reverse cervical curve.

Diagnosis: Cervical subluxation complicated by cervical strain/sprain with resultant symptoms of cervical pain. Thoracic subluxation complicated by strain/sprain with resultant symptoms of thoracic radiculitis. Lumbar subluxation complicated by lumbosacral strain/sprain with resultant symptoms of lumbalgia.

Summary: A very guarded prognosis must be rendered at this time. Due to the wide extent of the injury that occurred it is impossible to render an accurate judgment for the record. Reevaluation, based on comparative examination, will be conducted in approximately sixty days or as soon as we have a change in the complaint picture. The mechanism of the whiplash type injury to the neck and the rest of the spine results in weakened ligament tissue. This, in turn, causes spinal weakness and instability that may very well predispose the spinal area to further trouble from aggravation or trauma which might not have otherwise bothered her prior to the accident.

If we can be of any further assistance regarding this case, please feel free to contact me.

Summary and discussion

This case offers a good example of how patient-practitioner rapport, supported by the impressive clinical atmosphere of the chiropractor's office, can result in treatment far beyond the point when dismissal or referral was indicated.

Ms. Johnson was undoubtedly injured in the automobile accident. She suffered both physically and emotionally, but her pain was reinforced by Dr. Canbridge, who encouraged her dependency by overly sympathizing with her probable psychosomatic disability. If she had been urged to become more independent instead of having her image of the injury pattern reinforced, she could have helped heal herself. She was the victim of the prolonged, misguided treatment of her chiropractor.

Case 2

This case involved chiropractic treatment for a husband and wife who were allegedly injured in an automobile collision. The sparse medical and chiropractic records submitted to the author contained no significant evidence of spinal pathology.

To: Robert M. Morris, M.D.
Universal Insurance Company
From: Peter J. Modde, D.C.

July 3, 1981

I have examined the records and x-rays of 2/1/80, which you forwarded to me on [John Brown]. I will offer my opinions in the following paragraphs.

Low back conditions involving disc compression and lumbar sprains often respond to chiropractic procedures. But in treating joint instability as is apparent in this case, care must be taken not to overtreat the patient and aggravate ligaments and supporting joints of the spine.

Spinal manipulation, Williams exercises, swimming, anti-gravity maneuvers, i.e., such as on a slant board, weight loss and general body conditioning often help relieve conditions of this type. However, spinal manipulation in no way stops a truly degenerating disc from progressing. I have examined the x-rays in this case and there is some objective reduction of the I.V.D.S. at L45-S1. However, I do not see much sclerosis of the joint surfaces or calcium infiltration in the compressed area. I would suggest that spinal manipulation would be effective in the initial, acute stage of this condition and home rehabilitation would be the proper follow-up. I would allow twenty office calls for the initial correction and maybe another five calls for maintenance. After this point, there is no scientific evidence that manipulation does anything but aggravate the joint surfaces after initial spinal alignment.

Modde to Morris
July 3, 1981

I have examined the records you sent me on . . . Ellen Brown, and I will offer you my opinions in the following outline form.

The cervical x-rays of 4/17/80 indicate a moderate discopathy at C4 through C7. There is an indication of a slight cervical rib at C7. There are no other significant osseous deformities or pathologies.

Cervical sprains with related discopathy are often successfully treated with chiropractic methods. Effective techniques would be spinal manipulation, home cervical traction, Williams spinal exercises, and certain sleeping postures to help extend the spine. From the indications I can see here in this case, a fifteen office call regimen would have most likely given the maximum benefit of any active treatment.

There is a lot of evidence that continual manipulation can actually work to perpetuate this type of condition by inducing irritation to the joint surfaces. It is very reasonable that manipulation would be effective; however, there is a point of diminishing returns where the treatment actually produces additional symptoms.

I would allow fifteen office calls for correction of this condition and maybe another five calls for maintenance.

Case 3

Barbara E. Harris, a 48-year-old female, was the driver of a car which was struck on her side. Her head bounced into the side of the interior; this caused a superficial scalp laceration. She also suffered a contusion of the lower aspect of the left leg. Emergency hospital treatment was administered and she was released to the care of her regular physician. The author was not supplied with records indicating any medical care other than the emergency treatment.

Emergency Room Treatment Record
June 1, 1982

Subjective: 48-year-old female patient of the Jones Air Force Base Health Center complains of motor vehicle accident. Patient was driver in a vehicle which was hit from the driver's side in the last hour. The patient complains of pain in the left ankle region but no other abnormality. Denies head or neck pain.

Objective: The vital signs are stable and within normal limits. The patient is alert, oriented and cooperative. Head and neck exam reveals a 2 cm superficial laceration of the left vertex of the scalp. No other abnormality is noted. Chest exam unremarkable. Abdominal exam is benign. The back and hip exam unremarkable. Exam of the lower extremities reveals a 5 cm area of contusion with tenderness and edema, subcutaneous bleeding in the lateral aspect of the left lower extremity just proximal to the ankle. Patient can bear weight without any difficulty. Neurologic exam is normal. X-ray of the left tibia-fibula is negative per Radiology.

Assessment: Superficial scalp laceration, contusion lower aspect of the left leg.

Plan: Laceration prepped and closed with interrupted 4-10 nylon suture. Suture sheet given. Usual instructions. Patient will keep ice on the leg contusion and keep it elevated for the next 24 hours and follow up with her physician as necessary.

Chiropractic consultation and treatment

Ms. Harris reported to John Knode, D.C., for treatment the same day as the accident.

His diagnosis was "severe cervical, thoracic sprain with generalized spinal myofascitis resulting in multiple levels of nerve root pressure." The diagnosis and recommendations for extended care were based on (1) routine spinal radiographs that failed to show any fractures and (2) about 20 orthopedic spinal tests that were negative for nerve or joint problems. The only significant positive finding was a moderate limitation of cervical and thoracic spinal motion with "grade two paraspinal contractions throughout the spine." Chiropractic treatment from June 1, to September 20, 1982, consisted of 38 spinal adjustments, prescription for a cervical pillow, and four examinations. Treatment was in progress when this author was requested by Ms. Harris's insurance company to review the records and chiropractic bills; and give his opinion of whether (1) the treatment course and charges from Dr. Knode were reasonable and (2) future chiropractic adjustments were indicated.

Modde to Insurance Company
October 6, 1982

The medical records from St. Mary's Medical Center in Chicago, Illinois list a medical diagnosis related to a scalp laceration and a contusion of the lower left leg. There is no indication on the medical records that a spinal injury was sustained. The patient denied any head or neck pain. The back and hip examination were listed as unremarkable.

My opinion about this case is based upon a usual standard of care in similar cases and based on current chiropractic research and education.

X-Rays and Examination: I would allow the initial x-rays and examination on 6/1/82, as an acceptable screening procedure to rule out any spinal fractures or abnormalities.

Treatment: There is no evidence in the medical records or the chiropractic records which I have reviewed that there was any injury to the spine, but assuming that there was some spinal spraining, I would

allow an initial twenty office call regime to resolve these problems. In sprain injuries of the spine, treatment beyond an initial resolution of the "spinal fixations" or continual treatment can act as an irritant to the soft tissue which is attempting to heal, and perpetuate the original symptoms. I do not see any need for treatment in this case beyond the original twenty call regime.

Summary and discussion

It seems absurd to adjust someone's spine nearly 40 times over a four-month period—unless one accepts the basic premise of chiropractic that even minor deviations in spinal alignment cause disease. Thus chiropractors may search for and attempt to remove even the slightest apparent distortions.

Case 4

This author was not given the full accident history when he was asked to review this claim, which represents obviously premeditated excessive treatment. Brief medical records indicated that both Mr. and Mrs. Harley E. White probably sustained a minor muscular strain syndrome when their car was struck from the rear. Each received four to six ultrasound treatments and a prescription for muscle relaxants and pain medication. Medical radiographs were normal. Both were released from medical care four weeks following the date of injury.

Chiropractic consultation and treatment

Chiropractic spinal care began in December 1980 and ended in November 1981, after 84 treatments of Ms. White and 90 of her husband. Each client was also given an equal number of ultrasound treatments. The bills for both were accompanied by 14 pages describing a thorough medical and orthopedic examination that included few positive tests, none of which was significant.

To: Peter J. Modde, D.C.
From: Donald Dunhill
Dunhill, Swartz and Tweekum
August 15, 1981

I wish to employ you on behalf of the defendants in the above-entitled matter to review the records of K. W. Kirkland, D.C. concerning his treatment of Harley White and Mrs. White and formulate an opinion regarding the reasonableness and necessity of the treatment of Dr. Kirkland, both in terms of the type of treatment provided and the number of treatments provided.

I am particularly interested in your opinion of whether or not the number of treatments provided was reasonable and necessary.

This matter is currently in arbitration; so a narrative report by yourself will suffice in lieu of testimony. Therefore, after completing your evaluation, would you please prepare a narrative report outlining your qualifications, what material you reviewed, your opinions, and the basis for those opinions.

Modde to Dunhill
August 21, 1981

I have reviewed all the information which you sent to me, and I will offer my opinions regarding the above case in the following outline form. If you want me to review the treating doctor's x-rays or if you would like me to perform an independent medical examination on Harley [and Mrs.] White, please let me know. If you need further clarification on this matter, please call me.

Re: Harley White

History: Standard chiropractic care considering the history taken from the medical accident report and the reports of Dr. K. W. Kirkland on 12/26/80 would be to take x-rays of his spine and perform an orthopedic-neurological examination.

Diagnosis: With an injury of this type which indicates a moderate sprain to the neck, mid back, and low back, "spinal fixations" and nerve root irritation are expected. With the fixations, there are usually deep muscle contractions and myofascitis or inflammation of the muscles related to the spinal column. However, there is nothing in the records which I have reviewed which indicates any significant structural or nerve trauma related to the spine. All major orthopedic-neurological signs are within reasonable range for this type of injury.

Discussion: It is reasonable to expect in a hyperextension-flexion injury for a person to experience many of the symptoms listed under the chief complaints in this case. However, these symptoms are usually transitory unless there has been nerve damage which I see no evidence of.

Chiropractic care is helpful in injuries of this type following the acute phase which would last a week or two. Adjustments would help reduce spinal fixations and then the patient should be encouraged to resume normal activities and exercise to strengthen his spine. However, it has become quite clear that after the initial care, spinal supporting structures are best cared for through home exercises and full activity such as swimming. It is evident that applying treatment beyond this stage, that is after 20 to 30 office calls, can actually work as an irritant and perpetuate the original condition. With this in mind, active treatment should be brought to a halt and the patient released to home care.

I would allow a maximum of 30 office calls for this condition, but I see no evidence for the need for future treatment and no indication of objective permanent impairment. In addition to this, I would disallow the entire 90 treatment sequence of ultrasound because the prescription or administration of ultrasound in the State of Washington by a chiropractor is illegal. This is clearly spelled out in the State Board rules.

Summary: I would suggest that the charges for the x-rays and examinations through 7/26/81 be allowed and I would allow an initial correction regimen of 30 office calls. I would disallow the entire regime of the 90 ultrasound treatments.

Re: Ms. Harley White

History: Standard chiropractic care considering the history taken from the medical accident report and the reports of Dr. K. W. Kirkland would be to take x-rays of her spine and perform an orthopedic-neurological examination.

Diagnosis: With an injury of this type which indicates a moderate sprain to the neck, mid back, and low back, "spinal fixations" and nerve root irritation are expected. With the fixations, there are usually deep muscle contractions and myofascitis or inflammation of the muscles related to the spinal column. However, there is nothing in the records which I have reviewed which indicates any significant structural or nerve trauma related to the spine. All major orthopedic-neurological signs are within reasonable range for this type of injury.

Discussion: It is reasonable to expect in a hyperextension-flexion injury for a person to experience many of the symptoms listed under the chief complaints in this case. However, these symptoms are usually transitory unless there has been nerve damage which I see no evidence of.

Chiropractic care is helpful in injuries of this type following the acute phase which would last a week or two. Adjustments would help reduce spinal fixations and then the patient should be encouraged to resume normal activities and exercises to strengthen her spine. However, it has become clear that after the initial care, spinal supporting structures are cared best for through home exercises and full body activity such as swimming. It is evident that applying treatment beyond this stage, that is after 20 to 25 office calls, can actually work as an irritant and perpetuate the original condition. With this in mind, active treatment should be brought to a halt and the patient released to home spinal care.

I would allow a maximum of 20 to 25 office calls for this condition, but I see no evidence for the need for future treatment and no indication of objective permanent impairment. In addition to this, I would disallow the entire regimen of ultrasound treatments because the prescription or administration of ultrasound in the State of Washington by a chiropractic physician is illegal. This is clearly spelled out in the State Board rules.

Summary: I would allow the x-rays and examination through 7/11/81, a regime of 20 to 25 office calls for the initial correction, and I would disallow in full the 70 ultrasound treatments for the same reason as stated in relation to Mr. White.

Modde to Dunhill
August 21, 1981

I have been a practicing, qualified chiropractic physician in the State of Washington since 1970, and I attend annual State Board approved symposiums on all aspects of current chiropractic practice. I am fully aware of the standards and the laws related to the practice of chiropractic in the State of Washington.

I have reviewed the information which you supplied to me: the examinations by Dr. K. W. Kirkland and the x-ray reports and the medical reports . . . and I have based my opinions on current chiropractic educational standards of practice currently taught in State Board approved graduate symposiums.

Case 5

To: Peter J. Modde, D.C.
From: Kenneth E. Potter
Hampton, Potter, Landen, and Nodde Inc.
September 10, 1980

Pursuant to our recent telephone conversation, I have compiled together copies of all of the documents which I have available regarding Jane Williams's medical care and chiropractic care, and independent medical examination and evaluation. Her medical care has been provided by Dr. Arnold Agnew of Spokane, an orthopedic surgeon, whose deposition we have already taken. A photocopy of his deposition transcript is enclosed herewith.

She has had chiropractic care by the Adams Chiropractic Clinic, the total charges for which amount now to \$4,616.00 for services commencing September 25, 1979, and continuing to the present time. The accident date was December 29, 1978. Apparently, Adams also intends to continue providing chiropractic adjustment services, including this new coccygeal-meningeal syndrome treatment for an indefinite time in the future. The patient has testified in her own deposition that the doctor has told her that her condition was permanent and that she would probably need to have chiropractic adjustments on a permanent basis hereafter, although the anticipated frequency is not described.

Dr. M. C. Schofield, a neurosurgeon here in Panama City, Washington, has done an independent examination and evaluation of this young woman, and has reported his findings in his report dated September 7, 1980, a copy of which is also enclosed for your reference. In addition to his report, we have borrowed his x-rays, and those x-rays are all enclosed herewith for your review and return with your report of your findings and conclusions. Those x-rays of Jane Williams are identified and listed as follows: Nos. 1 through 17, "Cervical spine c-flex & ext., Dorsal, Lumbo-sacral spine C obliques."

The various reports contain an adequate summary recital of the facts of the accident in which she was involved to give you an idea of the nature of the trauma. Up until the time we took depositions a couple of weeks ago, we have been operating on the assumption that her claim was for injuries to her low back and her neck and the intrascapular area. However, her own orthopedic surgeon, Dr. Agnew, says that the conditions in her low back and hip which are referred to in some of the various reports, are not causally connected or a result of injuries suffered in this accident. He attributes her low back and hip problem to her own routine activities and the fact that she has a scoliosis there which is of a congenital or developmental nature.

After you have had an opportunity to review this enclosed material, if you have questions or need additional information before writing your report, please feel free to give me a call and I will be glad to try to secure the necessary information for you to enable you to offer us your chiropractic opinion regarding the care that she has received and the care that she has needed and/or might presently or hereafter need. We are, of course, specifically concerned about the reasonableness of the chiropractic care and expense provided thus far, as well as the reasonableness of the conclusion that she is to expect to need chiropractic adjustment care for the rest of her anticipated long life.

Modde to Potter
September 30, 1980

I have reviewed the depositions, x-rays, and medical reports which you supplied to me including a copy of the deposition of Jane Williams, and the reports provided by Dr. Arnold Agnew and by the Adams Chiropractic Clinic and the evaluation of Dr. Schofield regarding the above case. I will offer you my opinions regarding this matter in somewhat of an outline form on the following pages.

I have based my opinions on current, accepted, usual standards of care for chiropractors in Washington State. There are, of course, diverse opinions regarding the application of physical techniques, but my opinions are based on reasonable standards which are adhered to by the majority of chiropractic practitioners in the State of Washington. After you have reviewed the case, if you have any questions or need further clarification on any of the points, please contact me.

P.S.: When I speak of Washington State standards, it is to be understood that these are comparable to national chiropractic standards.

Analysis of Medical X-Rays Taken on Jane Williams on 9/7/80 by M. C. Schofield, M.D.:

- I. Cervical
 - A. The A-P open mouth shows an apparent slight disrelationship of C1 and C2.
 - B. Lower cervical-upper thoracic A-P shows nothing remarkable other than a bilateral congenital cervical rib.
 - C. Neutral lateral indicates a reduction in the normal cervical lordosis. There is an indication of a slight reduction of the IVDS at C6 and C7.
 - D. Cervical flexion and extension are essentially within normal limits. The cervical extension view may indicate a slight restriction in cervical extension
 - E. Right and left obliques are within normal limits.

- II. Thoracic
A-P and lateral. The AP view reveals the congenital cervical rib, and the lateral reveals slight irregularity of the margins on some of the vertebral bodies.
- III. Lumbar
A-P view reveals a slight left lateral curve. The lateral view is within normal limits with an indication of a moderate reduction in the L5-S1 IVDS and slightly irregular vertebral body margins.
- IV. AP pelvis and hip
Within normal limits. Indication of a congenital L5-S1 irregularity with a slight spina bifida at S1.

Analysis of Deposition of Jane Williams, June 1, 1980:

1. Page 10, re: "Treatment for the rest of your life." I think this statement by Dr. Adams is most likely sincere, but according to current scientific knowledge, the basis upon which he makes this misguided, irrational statement is unsound.
2. Page 18, lines 17–25, re: The feeling of the head being heavy for the neck and the pain between the shoulder blades. This is a statement which patients often express when they are depressed, under extreme tension, or have not been participating in enough physical activity to maintain proper spinal tone.
3. Page 20, re: Spinal complaints and tension. The complaints expressed here indicate to me that the continuing factor in this lady's problem is most likely a tension problem, unrelated to any objective spinal injury. In this sense, and I will explain in more detail later, I believe the treatment which she is receiving from Dr. Adams is actually perpetuating her problem.
4. Page 21, lines 1–10, 23–25, re: Tension and pain. Here Jane indicates that Tylenol or rest can often relieve her pain. This indicates that it is a functional tension problem and is not predominantly due to a mechanical nerve root irritation.
5. Page 22, re: Tension and pain. Again, it is indicated to me here that the rest relieves the pain, indicating to me that it is a functional problem.
6. Page 23, lines 19–25; page 24, line 1, re: Pain in sitting: Jane indicates here that prolonged sitting influences the pain in her back. Prolonged sitting creates a tension problem and is a quite common symptom in people who are required to be immobile at a desk, workbench, or other work areas.
7. Page 25, lines 18–25, re: Lying down and pain. Jane explains here that either going to the chiropractor or lying down on the floor or walking around for a while relieves the pain and that is brought on by prolonged sitting. This indicates a functional problem.
8. Page 27, lines 17–19, re: Comparison x-rays. I would like to have the opportunity to review these sets of x-rays, but I am most intrigued by her answer stating that "He uses a comparison of the first few sets of x-rays and the current x-rays." I am aware of the technique he is using, and I am aware that the founder of this technique advises taking progress x-rays, but I am intrigued by her statement indicating that multiple sets were taken. I would question the rationality of this and I will discuss this later in my summary.
9. Pages 27–28, lines 24–25, 1. [She] indicates here that Dr. Adams has indicated to her that her condition is getting better. I would like the opportunity to review her case file and her x-rays.

10. Page 28, lines 7–12, re: Improvement. Jane indicates here that according to Dr. Adams and herself, that her condition is improving.
11. Pages 32–33, re: Special adjustments. I am familiar with the procedure he is using and I have attended a seminar by the founder of the technique, Dr. Lowell Ward, and I will discuss this in my summary.
12. Pages 33–35, re: Rectal adjusting. There is a discussion here about “he has to go up into my rectum and adjust” and further a discussion about coccygeal meningeal treatment. The basis of this technique is partially founded on antiquated osteopathic theory that the “shifting of the ligaments and the meninges” of the spine create nerve irritation and imbalance in the spinal musculature.
13. Page 35, re: Lifetime treatment. It is my opinion that the suggestion to this patient, based on the information which I have been supplied that she might require lifetime treatment, is a serious misguided conclusion.

Analysis of Clinical Records of 9/25, 1979 from Dr. Adams and report of 9/26, 1979.

A. Report of 9/25/79

1. The digestive disorders and constipation listed in the history in my opinion are indications of a tension problem or an underlying medical problem and would not be related to the accident.
2. The complaints listed as stiffness in the neck and mid-back and some radiating mid-back pain can be the result of spinal nerve root irritation but also can be symptoms related to general spinal tension.
3. Under objective findings, I don't see anything significant here which would indicate any significant nerve root irritation.
4. Regarding the x-rays, the misalignments noted: I would like to see these demonstrated by the author.
5. Regarding diagnosis: I would agree that an accident of this type can cause a strain-sprain syndrome resulting in a temporary disruption of normal spinal balance.
6. I do not agree from the information which has been supplied to me that her injury is of a “wide extent.” There are no objective findings either in the x-rays, in Dr. Adams's report, or in the medical reports to substantiate this conclusion.

B. Evaluation of the case records of Dr. Adams of 9/26/79

Regarding Spinal Column Stressology, the system that Dr. Adams has employed here is a system of attempting to balance the spinal column by applying pressure to certain areas of the body in an attempt to produce reduction of spinal fixations and alleviation of muscular imbalances. This system is based, in part, on antiquated, osteopathic theory which has never been scientifically proven.

Conclusion

It is reasonable to expect in an accident of this type that a person will experience many of the symptoms expressed by Jane Williams. However, in injuries of this type, with the medical diagnosis of “soft tissue sprain of cervical and thoracic and lumbar spines,” these symptoms are usually transitory unless there has been significant ligament damage and resulting nerve root irritation. There is no evidence in any of the reports, examinations, or x-rays that any significant spinal damage occurred.

Chiropractic care is often helpful in these types of injuries following the acute phase, that is, after a week or two to reduce spinal fixation and help to regain normal spinal mobility. However, it has become quite clear to those who have investigated even briefly that after the initial care, that is on the average after 10 to 20 treatments, that the treatment itself can actually work as an irritant and perpetuate the original condition.

In my opinion, the treatment given by Dr. Adams, however sincere, was misguided and excessive. And I believe that continual treatment of this nature can only prolong this young woman's tension problem and [keep her from] resuming normal activities within the limits of her tolerance based on her congenital problems and the structural deficiencies which they elicit.

I don't know how many "sets" of x-rays were taken in this case, but based on my familiarity with the Ward technique, it is my understanding that several sets are usually taken. In my opinion, this is a misguided application of radiographic studies.

From the information which has been supplied to me, it is my opinion that Jane's problem is basically a spinal tension problem and could be more rapidly and efficiently treated with home exercises, swimming, and possibly some training in bio-feedback to help her learn how to relax.

It is my opinion that the chiropractic care administered in this case is grossly excessive and I would allow a 30 office call regime for treatment of the original injury and allow two office calls a month for one year following the conclusion of the original regime. From the evidence that I have reviewed, I would allow a 3% permanent partial disability, based on the Whole Man Scale.

Summary and Discussion

This chiropractor was truly practicing his philosophy on his client. His method of measuring spinal subluxations involved a complex system of calculating vertebral offsetting, thought to create damaging spinal pathology due to unequal stresses on the spine as a unit. As the system is employed, it appears very sophisticated to those unschooled in spinal dynamics. Nevertheless, in my opinion it has no basis in fact. If the theory underlying this technique were true—if minute off-centering of vertebral joints caused severe pathological changes in the nervous system, producing a multitude of organic diseases—then all children who developed common spinal curvatures would immediately drop dead. If young adults developed scoliosis, they would be so ill that they would not be able to crawl onto the doctor's examining table. There is in fact adequate space between spinal components for a margin of error in man's adaptation to most daily stresses.

Ms. Williams received more than 300 treatments during her chiropractic regimen over a period of approximately a year. Only the fact that the technique used is a light-force, reflex method saved her from probable permanent joint arthrosis.

This case is representative of hundreds of cases of excessive services reviewed by this author because it contains all five of the typical components listed above on p. 229.

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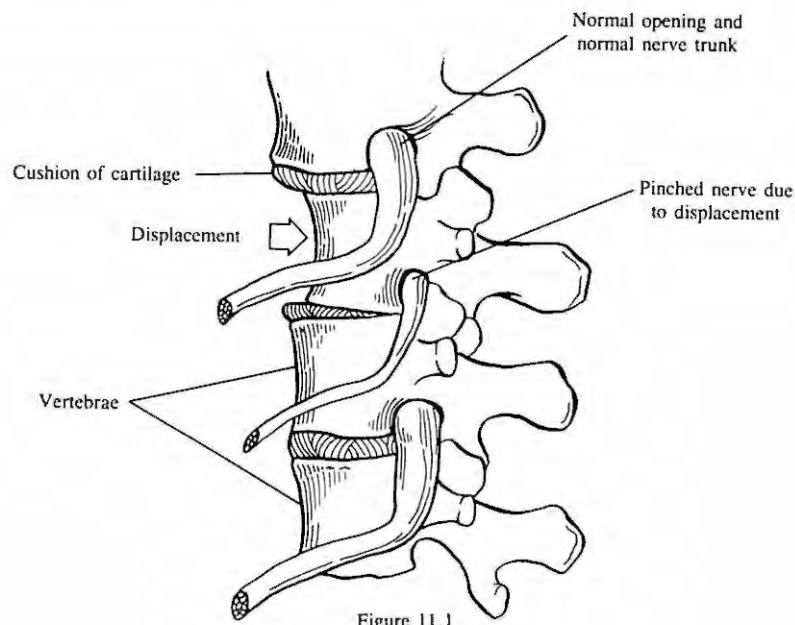


Figure 11.1

FIG. 11.2
Effects of Spinal Misalignments

This widely used chart depicts conditions possibly caused by spinal subluxations. Functions: The nervous system controls and coordinates all organs and structures, and the body. Misalignments of spinal vertebrae and discs may cause irritation to the nervous system and affect the structures, organs, and functions, which may result in the conditions shown below.

AREAS	EFFECTS
Blood supply to the head, pituitary gland, scalp, facial bones, brain, inner and middle ear, sympathetic nervous system	—Headaches, nervousness, insomnia, head colds, high blood pressure, migraine headaches, nervous breakdowns, amnesia, chronic tiredness, dizziness
Eyes, optic and auditory nerves, sinuses, mastoid bones, tongue, forehead	—Sinus trouble, allergies, crossed eyes, deafness, eye troubles, earache, fainting spells, certain cases of blindness, neuralgia, neuritis, acne or pimples, eczema
Cheeks, outer ear, facial bones, teeth, trifacial nerve	—Hay fever, catarrh, hearing loss, adenoids
Nose, lips mouth, eustachian tube	—Laryngitis, hoarseness, throat conditions such as sore throat or quinsy
Vocal cords, neck glands, pharynx	—Stiff neck, upper-arm pain, tonsilitis, whooping cough, croup
Thyroid gland, bursae in the shoulders, elbows	—Bursitis, colds, thyroid conditions
	—Asthma, cough, difficulty breathing, shortness of breath, pain in lower arms and hands
Arms from the elbows down including hands, wrists, and fingers, esophagus and trachea	—Functional heart and certain chest conditions
Heart, including its valves and covering, coronary arteries	—Bronchitis, pleurisy, pneumonia, congestion, influenza
Lungs, bronchial tubes, pleura, chest, breast	—Gall bladder conditions, jaundice, shingles
Gall bladder, common duct	—Liver conditions, fevers, low blood pressure, anemia, poor circulation, arthritis
Liver, solar plexus, blood	—Stomach troubles, including nervous stomach, indigestion, heartburn, dyspepsia
Stomach	—Ulcers, gastritis

Pancreas, duodenum	—Lowered resistance
Spleen	—Allergies, hives
Adrenal and suprarenal glands	—Kidney troubles, hardening of the arteries, chronic tiredness, nephritis, pyelitis
Kidneys	
Kidneys, ureters	—Skin conditions such as acne, pimples, eczema, boils
Small intestines, lymph circulation	—Rheumatism, gas pains, certain types of sterility
Large intestines, inguinal rings	—Constipation, colitis, dysentery, diarrhea, some ruptures or hernias
	—Cramps, difficulty breathing, acidosis, varicose veins
Appendix, abdomen, upper legs	—Bladder troubles, menstrual troubles such as painful or irregular periods, miscarriages, bed wetting
Sex organs, uterus, bladder, knees	—Impotency, change-of-life symptoms, many knee pains
Prostate gland, lower back muscles, sciatic nerve	—Sciatica, lumbago, difficult, painful, or too frequent urination, backaches
Lower legs, ankles, feet	—Poor circulation cramps, or weakness in legs, swollen or weak ankles or arches, cold feet
Hip bones, buttocks	—Sacroiliac conditions, spinal curvatures
Rectum, anus	—Hemorrhoids (piles), pruritus (itching), pain at end of spine on sitting

FOR ADDITIONAL INFORMATION ABOUT THE CONDITIONS SHOWN ABOVE, SEE YOUR DOCTOR OR CHIROPRACTIC.

ALLEGED CHIROPRACTIC MALPRACTICE CASES

In the last seven years the author has reviewed approximately 150 cases of alleged chiropractic malpractice. In some the only culprit seemed to be bad luck, resulting in minor trauma to the patient; others were clear cases of negligence with the patient's being severely disabled or killed. Most could have been prevented with precautionary reasoning, clinical objectivity, and a practical skepticism on the part of the practitioner toward some of the less well-founded precepts in chiropractic philosophy. The following cases were chosen for review as typical instances of chiropractic negligence. The facts are taken directly from chiropractic and medical records, depositions, affidavits, and other plaintiff and defense documents. Names and dates have been changed to avoid embarrassment to involved parties and legal complications. Many of the cases were settled shortly after the preliminary consulting report was issued, and others were resolved in different stages of the legal process. Therefore the amount of information available varies.

1. Alleged Rupture of Cervical Disc by Supine Rotary Adjustment

The facts in this case seemed clear and pointed toward the use of excessive force on a weakened joint structure suddenly swollen. Margaret Shannon, a 37-year-old housewife and part-time truck driver, underwent a surgical fusion soon after the adjustment, but the jury exonerated the chiropractor, Harvey Howard, with a verdict for the defense. Ms. Shannon's story conflicted with the chiropractor's, and the jury apparently believed the latter.

Medical History

This married woman with three children was in good health with a history of two surgical procedures, one involving an ovarian cyst, the other a tubal ligation. Other general medical treatment within the past five years was for undefined sores in her mouth, and an accidental self-inflicted gunshot wound in her left foot with some residual numbness in her left big toe. She had been involved in a one-car accident eight months prior to the alleged incident and was examined for fractures to the neck and jaw with no positive findings.

Chiropractic consultation and treatment

Ms. Shannon presented with muscle spasms, headaches, and left shoulder and neck pain of six days' duration. She stated that she awoke one morning with the pain and that it had since persisted, but was not severe. She recalled no accident or circumstance that could have caused it, failing to mention an auto accident eight months prior to the onset of symptoms. On a health questionnaire given to her by the chiropractic staff she circled the following symptoms: headache, fatigue, allergy, hay fever, enlarged glands, sensitive skin, hives or allergy, stiff neck, spinal curvature, nausea, and diarrhea. There was no medical evidence for any underlying disease conforming to the circled symptoms.

Dr. Howard stated in his deposition that he examined the patient's neck and took two full-spine 14- and 36-inch radiographs on the first visit. He made a diagnosis of severe cervical strain and sprain, but failed to record the examination results. The plaintiff's attorney's questioned this omission:

Q: Did you record the findings and results of the range of motion tests?

A: No, I never—uh (pause) infrequently that I do.

Dr. Howard did recall performing a foramina-compression test and a Soto-Hall test with a positive finding for both. The Soto-Hall test can indicate a cervical or thoracic spinal fracture, and the positive compression test gives some evidence of cervical nerve-root involvement. Following the cursory examination and X-rays, the chiropractor proceeded to adjust the patient's cervical spine. From the records and depositions it is apparent that he used a bilateral "supine cervical rotary break," the most destructive adjustive maneuver ever devised. The defendant, however, claimed that he used very little force and that he did not twist the patient's head from side to side. Ms. Shannon left the office and her neck pain increased as the evening progressed. She returned to Dr. Howard the following day and reported severe neck and left arm pain. The records are unclear, but there are indications that the chiropractor attempted to apply intermittent traction in an unsuccessful endeavor to reduce the cervical spasms. Later the same day the plaintiff presented herself at a hospital emergency room, and was subsequently examined by an orthopedist and a neurosurgeon.

Plaintiff's presentation of facts

Ms. Shannon stated that she consulted the chiropractor for a constant, aggravating neck pain that was bothersome but not severe. In her deposition she described the treatment she had received as an X-ray and a twisting adjustment of her neck. Dr. Howard had explained to her that her neck was out of alignment and that it needed adjusting. According to her statement, she agreed to the treatment without an explanation of possible risks. When her counsel asked her what took place during the treatment, Ms. Shannon replied, "Well, just turning my head from side to side and it would pop a lot, laying [sic] down on his table and I believe he pulled my head back trying to get that alignment back."

She recalled discussing the neck spasms with Dr. Howard. Ms. Shannon stated that because of the increasing pain, she sought medical treatment that evening. The physician she consulted checked the motion of her neck and wrote her a prescription for pain medication and muscle relaxants.

Medical treatment and opinion

After an unprofitable trial period of inpatient conservative care based on a diagnosis of cervical disc herniation, Ms. Shannon was prepared for an anterior discectomy at C5-6. The medical report listed the surgical findings as follows: "A very large, completely herniated free fragment was under the longitudinal ligament, compressing the nerve root at the C5-6 interspace on the left. There was mild osteophyte formation."

The plaintiff's medical witness, in answer to a hypothetical question assuming that Ms. Shannon was adjusted as she described and as portrayed in the exhibit showing a supine rotary cervical break, answered the following:

Well my opinion is that the—in all likelihood, that the manipulation probably contributed to, you know, the protrusion of the disc. I think that the underlying pathological process was probably there, and the symptoms were very likely there before she saw, you know, anyone; but that—and I'm basing this primarily on assuming that those facts are true, that she was worsened—her symptoms took on more of a radiating characteristic more down the left arm than seemed to be the case before the treatment, and on the fact that I feel that the rotary motion of what seems to be entailed at least in these photographs could very well contribute to an—or possibly contribute to more of a herniation.

Alleged malpractice

The following excerpts from the plaintiff's petition for damages summarize her version of the encounter:

On May 31, 1979, plaintiff, Margaret Shannon, was a patient of the defendant, Harvey Howard. On that date, defendant undertook the care of the treatment of plaintiff, Margaret Shannon, for a muscle spasm in her neck. On that date, defendant manually adjusted and twisted the plaintiff's neck in such a way that the plaintiff, Margaret Shannon, sustained severe and permanent injuries. As a result of defendant chiropractor's severe twisting of the plaintiff's neck, plaintiff had no other choice but to be treated at the emergency room at St. John's Medical Clinic. An orthopedic surgeon at the emergency room then admitted the plaintiff, Margaret, to the hospital where she was in traction for over a week. During the plaintiff's stay at the hospital, the plaintiff developed paralysis in her left arm and hand. Later, a neurosurgeon had to remove a herniated disc that had ruptured as a result of the defendant's traumatic neck manipulation.

In the care and treatment of plaintiff, Margaret Shannon, the defendant, Harvey Howard, was careless, negligent and deviated from standard approved chiropractic practice. As a direct result of the defendant's negligence, plaintiff, Margaret Shannon, has sustained severe and permanent injuries.

Operative Record

PREOPERATIVE DIAGNOSIS: Cervical disc herniation

OPERATION: Anterior discectomy, C5-6

Petition

COMES NOW the plaintiff and for her cause of action against the defendant, alleges and states:

I.

Plaintiff Jane Doe, is a resident of Sedgwick County, Kansas and resides at 20 Main St., Wichita, Kansas 30029.

II.

At all times material hereto and to which reference is made herein, defendant, John Doe, D.C., was a chiropractor, licensed and practicing in the state of Kansas.

At all times material hereto and to which reference is made herein, a physician-patient relationship existed between the plaintiff, Jane Doe, and defendant.

On May 31, 1979, plaintiff, Jane Doe, was a patient of the defendant, John Doe. On that date, defendant undertook the care and treatment of plaintiff for a muscle spasm in her neck. On that date, defendant manually adjusted and twisted the plaintiff's neck in such a way that the plaintiff sustained severe and permanent injuries. As a result of defendant chiropractor's severe twisting of the plaintiff's neck, plaintiff had no other choice but to be treated at the emergency room at the medical clinic. An orthopedic surgeon at the emergency room then admitted the plaintiff, Jane Doe, to the hospital where she was in traction for over a week. During the plaintiff's stay at the hospital, the plaintiff developed paralysis in her left arm and hand. Later, a neurosurgeon had to remove a herniated disc that had ruptured as a result of the defendant's alleged traumatic neck manipulations.

In the care and treatment of plaintiff, Jane Doe, the defendant, Harvey Howard, was careless, negligent and deviated from standard approved chiropractic practice. As a direct result of the defendant's negligence, plaintiff has sustained severe and permanent injuries.

Because of the defendant's negligence, plaintiff Jane Doe has suffered pain, bodily injury, permanent disability and medical and hospital expenses. Further, plaintiff will in the future suffer pain, mental anguish, permanent disability, medical and hospital expenses and impairment of earning capacity, all to her damage.

WHEREFORE, plaintiff prays for damages from the defendant in an amount in excess of \$10,000, together with her costs incurred herein.

Attorneys for Plaintiff

By _____

Defense Statement

The patient, Mrs. Jane Doe, a housewife of thirty-seven years, came to my office complaining of a bad headache and muscle spasms in the neck and left shoulder for the past six days. She said that she didn't know the reason for onset, but the condition was worse at that time than it had been during the past six days.

After consulting with the patient about her condition, I examined her both for orthopedic and neurological findings. After the examination, I x-rayed the patient. Views taken were 14 × 36 A-P and lateral. After analyzing the films and determination of extent of her condition and problems, I preceded to care for her. I used diathermy infiltration on the cervical and upper thoracic region for 10 minutes. Following the heat, the patient was given soft tissue massage on the involved areas with a G-5 Vibrator to help relieve the muscle spasms she was having. After the massage, I used conservative manipulative procedures to relieve the symptom complex and to reduce the subluxation complex. The patient then was instructed to see me again in two days.

The next morning while I was at home, the patient called into the office and told the girl that a friend sat on her head the past evening and she was in severe pain and wanted to come in for treatment. My receptionist called me at home and relayed the message to me. At that time I went into the office to treat her. When I arrived, she told me the same story she had told the receptionist. She said that she was doing better the past evening until he sat on her head. I believe she said that it was her brother-in-law who sat on her head. At that time she was in a great amount of pain. She had severe muscle spasms and a severe

headache. I placed her in a supine position and used cervical intermittent traction on her for 10 minutes at 15 lbs. tension. After traction I used the ultrasound on her trapezius muscles in the shoulder area for approximately 10 minutes. I then massaged the muscles in the neck and shoulder areas with a Myodyne to relieve the soreness and held a few pressure points to help relieve the spasms. I instructed her that I could not manipulate the spine that day due to the recent trauma and to reschedule for the next day and I would re-examine her at that time. I told her to go home and use ice packs to relieve the pain and prevent swelling.

In preparation for trial the defendant made an 8-mm film of himself administering a gentle, isometric stretch-type rotary adjustment to the cervical spine of a model in the supine position. Presumably this was presented at the trial to rebut the plaintiff's claims that she was given a harsh, twisting, popping adjustment of the neck. The film appeared to the author as definitely a carefully staged production, not representative of the bilateral supine cervical rotary break that the evidence indicated was used in this case.

Independent Chiropractic Opinion

March 1, 1980

An evaluation and opinions of the deposition of Jane Doe on November 12, 1979.

1. re history: (pages 42–43)

When a person wakes up with severe pain without a history of accident or injury, one would suspect a preexisting condition or a tumor or a vascular abnormality.

2. re chiropractic adjustment: (page 46, lines 24–25)

It is indicated here by Jane Doe that the doctor turned her head from side to side and it popped a lot. This indicates to me that the patient was given a rotary type of adjustment which, given the history, was contraindicated.

3. re post-adjustment pain: (page 60)

The increase in pain after the initial treatment and the patient's history should have alerted the doctor to perform further examinations or refer the patient for neurological consultation.

4. re cervical traction: (page 62)

The patient should not have had intermittent traction after the initial worsening of the condition until a further examination was performed.

5. re arm symptoms: (page 65)

The increase in the symptoms following the original treatment and the increase in arm pain should have alerted the doctor to do a further examination.

6. Re: Post treatment referral: (page 69, lines 5–10)

The doctor should have referred the patient following the initial worsening of the condition and not left her on her own to handle the problem.

An evaluation and opinions of the deposition of Dr. Sam Doe on November 12, 1979.

1. Re reflex changes: (pages 5–6)

Examination results of this type indicate a disc syndrome and probable radiculopathy.

2. Re proper treatment: (page 8, lines 8–13)
The conservative medical treatment in my opinion was the proper treatment.
3. Re manipulation as a causative factor of the herniated disc:
I agree with Dr. Pickhard's opinion regarding the preexisting disc degeneration and the force induced by the manipulation as the cause of the herniation.
4. Re acute disc: (page 19, line 13)
I agree that Margaret Shannon suffered from an acute exacerbation of a preexisting disc weakness.
5. Re conservative medical treatment: (page 23, lines 10–19)
I agree that the treatment described here would have been the proper treatment.
6. Re lateral rotatory force: (page 32)
Lateral rotatory force resulting from a rotatory cervical adjustment would most definitely exert extreme pressure on the cervical disc.
7. Re exacerbation of symptoms with cervical traction: (pages 33–34)
Intermittent cervical traction can, in my opinion, in some cases cause an increase in symptoms.
8. Re radicular pain: (page 36, lines 1–8)
I agree that the radicular pain should alert the doctor that there is a good possibility of disc involvement.

An evaluation and opinions of the deposition of John Doe, D.C., on November 12, 1979.

1. Re Palmer textbooks:
There are various medical textbooks that are approved at Palmer College and a list is enclosed.
2. Re ACA material: (page 9, lines 8–9)
Palmer College is a CCE-approved school and teaches diagnosis which is approved by the ACA.
3. Re "Positive cervical compression, etiology unknown:" (page 21, lines 3–7)
Whenever one elicits a positive cervical compression test. The examiner is alerted to the possibility of a disc problem.
4. Re spinal x-rays: (page 30, lines 11–16)
An A-P and lateral full spine 14" × 36" are not the proper x-rays to diagnose a cervical syndrome. Separate views of the neck should have been taken possibly including oblique and flexion-extension studies.
5. Re the history: (page 32, lines 4–12)
Given the history in this instance, a cervical disc problem should have been suspected and extreme caution exercised in administering any force to the area.
6. Re narrowing of the discs: (page 34, lines 2–9)
Narrowing of the discs was discussed here and this should have indicated to the doctor again that extreme caution be exercised.
7. Re examination: (page 35, lines 17–25)
A routine, proper chiropractic neurological-orthopedic examination should have been performed be-

fore any treatment was administered. A proper examination cannot be done in five or six minutes and it is apparent to me here that it was never done.

8. Re muscle spasms: (page 36, lines 5–13)
Extreme muscle spasms or contractions are a “splinting effort” by the body to protect an area that is irritated. Their presence is an indication that there is some underlying disease or pathology or injury.
9. Re adjustment of her spine: (page 37, lines 20–25)
The patient’s symptoms indicated a need for conservative management and not forceful manipulation.
10. Re cervical x-rays: (page 38, lines 39–40)
The x-rays that I have reviewed which were taken on Jane Doe are not the proper x-ray studies. They would not be considered standard chiropractic diagnostic x-rays for a condition of her type. Information obtained from inadequate x-rays can, of course, result in erroneous and dangerous clinical conclusions.
11. Re examination: (page 40, lines 21–25; page 41, lines 1–4)
There are certain routine, standard neurological-orthopedic tests which would be indicated for this particular patient. It is apparent to me that the proper tests were not performed.
12. Re conservative treatment: (page 44)
With the history presented on this patient and the clinical indications, conservative treatment involving immobilization, passive cervical traction, and rest would be indicated versus invasive rotatory spinal manipulation.
13. Re force: (page 45, line 21)
Invasionary rotatory manipulation is only one aspect of proper chiropractic management; however, forceful rotatory manipulation is being reexamined by chiropractic educators and there are many indications that it should never be used.
- Re force versus non-force: (page 46, lines 6–10)
Use of a forceful technique is only one aspect of proper care and the patient should have been informed of alternatives.
15. Re past correction x-rays—examination: (page 49–50, lines 23–25, 1–8)
There are certain clinical tests which help apprise the clinician whether the initial treatment was the proper treatment and whether to proceed, re-evaluate or seek consultation and/or referral.
16. Re diversified modified cervical break: (page 51, lines 10–11)
This type of technique should never have been used on a patient presenting the symptoms and the history which Margaret Shannon presented.
17. Re “cervical break:” (page 54, lines 3–4)
Again, this technique should not have been used on this individual.
18. Re force: (page 56, lines 23–25)
If a person presents severe muscle spasms, it is an indication of an underlying irritation and this should be a sign to the manipulator that force at that time should be very light or not at all.

An evaluation and opinions of Part II of the deposition of John Doe, D.C., on November 12, 1979.

1. *Re cervical collar:* (page 4, lines 6–21)
It is standard chiropractic practice to use supportive devices to immobilize where inflammation is a factor.
2. *Re “risk-free procedure:”* (page 6, lines 13–16)
Rotary manipulation of an individual’s neck where there is inflammation and disc compression is not risk free.
3. *Re risk:* (page 6, line 18)
In this particular case, the proper evaluation was not performed to determine the degree of risk.
4. *Re conservative care vs. manipulation:* (pages 6–7, lines 23, 1–7)
It would be my opinion in this case, given the information I have, that immobilization would have been the proper treatment.
5. *Re neurological examination:* (page 8, lines 1–7)
The record does not indicate that a proper examination was performed.
6. *Re reflexes:* (page 8, line 12)
Examination of the upper spinal reflexes is a routine, standard chiropractic procedure.
7. *Re Soto-Hall Test and examination:* (page 8, lines 20–25; page 9, lines 1–25)
The Soto-Hall Test is a test for spinal fracture. If the doctor would find this test positive, he would certainly not manipulate.
8. *Re cervical disc:* (page 10, lines 14–19)
Given the history of the patient, a cervical disc should have been suspected.
9. *Re history:* (page 13)
It is apparent that the history was inadequate and not sufficient to make a proper diagnosis.
10. *Re herniated disc:* (page 16, lines 19–22)
The indications were there and the patient should have been treated conservatively.
11. *Re herniated disc and history:* (page 17, lines 2–15)
Without recent trauma and with the clinical symptoms presented, one would suspect a tumor or a herniated disc in this case. In either of these cases, manipulation would be contraindicated. Further neurological testing should have been done.
12. *Re foraminal occlusion:* (Page 19, lines 22–25)
Oblique x-rays of the neck would be necessary to accurately determine the significance of foraminal occlusion.
13. *Re osteophytes and oblique cervical x-rays:* (pages 20–21)
The proper procedure would be to take oblique views and in this case they were indicated.
14. *Re ruptured disc:* (page 22, lines 1–22)
The residuals of a ruptured nucleus pulposus can be evident on x-rays.

15. *Re ruling out ruptured disc:* (page 22, lines 23–25)
A proper examination should have been done to determine the proper treatment.
16. *Re spinal x-rays:* (page 23, deposition exhibits 5 and 6, dated 11/1/79)
Exhibit 5 is an A-P cervical thoracic x-ray. It appears as though there is left lateral deviation of the cervical region and a right lateral deviation of the thoracic region. The detail on the cervical region is insufficient to do a proper radiographic diagnosis. On the thoracic view, there appear to be some vertebral margin irregularities. Exhibit 6 is a lateral cervical thoracic view. The radiographic quality is not good but there appears to be a marked reduction in the normal cervical lordosis. Also there appears to be vertebral body lipping at C5 and C6 with a loss in continuity of George's line. The thoracic region indicates a reduction in several disc spaces and vertebral body margin irregularities. Note: These are not the proper x-rays for the diagnosis of a cervical condition.
17. *Re cervical curve:* (page 24, lines 1–5)
Forward of straight is not a kyphotic curve. Lordotic is forward; kyphotic is backward.
18. *Re degenerative disc trauma:* (page 24, lines 6–20)
Trauma can aggravate a degenerative disc and a rotatory manipulation can be a severe trauma.
19. *Re cervical motion:* (page 24–26)
It would be standard procedure to perform and record the approximate limitations on cervical motion if there were any present.
20. *Re positive compression test:* (page 26)
In the presence of a positive test, extreme caution should be exercised to prevent further aggravation of any underlying conditions; and an indication for a more in-depth evaluation.
21. *Re adjustments and positive compression test:* (page 28, lines 8–13)
Extreme caution would be exercised in the presence of a positive test.
22. *Re chronic disc disorder:* (page 43)
Chronic disc disorders are treated most successfully by deep massage, passive traction, motion exercises, and other conservative measures. Rotatory manipulation would act as an irritant in most chronic neck disorders.

To: John Smith Esa
From: Peter J. Modde, D.C.
March 1, 1980

I have examined the depositions of John Doe, D.C., Jane Does, & Sam Doe, and the cervical-thoracic x-rays taken in May of 1979, and a petition regarding this case.

It is my opinion, based on a thorough analysis of all the information that you supplied me, that Dr. Doe did not perform a proper standard of chiropractic care in his treatment of Jane Doe and that his manipulation of her cervical spine was the cause of the herniated disc discovered at surgery. I will state my reasons for this opinion in the following paragraphs:

Usual and customary chiropractic care

1. Medical history. It is an accepted standard today in the chiropractic profession to take a thorough and in-depth medical history before any diagnostic testing or treatment is administered. Dr. Doe did not take a proper medical history in this case.

2. The orthopedic-neurological examination. It is usual and customary for proper chiropractic practice to do a thorough survey examination on each patient before ordering or administering further laboratory tests or x-ray examinations. There are certain reflex, sensory, neuro-vascular examinations and tests which are a routine part of proper chiropractic evaluation. The standard tests to properly evaluate and differentiate the patient's condition were not performed.

3. X-ray examination. It is usual and customary for a proper standard of care in chiropractic practice to perform an x-ray examination of the area involved if any manipulation is to be administered. This is very important: if there is an anomaly of the bones of the area of upper neck, forceful twisting or rotatory manipulation can induce severe reactions and trauma to the blood vessels, nerves, joints, and discs.

Dr. Howard did not take the proper x-rays to do an adequate evaluation of the patient's condition. Specific views of the cervical spine, including oblique projections, should have been done to rule out any osseous deformities or underlying pathologies which might be causing foraminal encroachment. His x-rays were not of radiological quality to make a definitive diagnosis.

4. Chiropractic treatment. It is usual and standard chiropractic practice to administer manipulation only after a thorough medical history, orthopedic-neurological examination and an x-ray examination have been done. If, after the administration of treatment, the patient has an unusual reaction such as dizziness, severe headache, nausea, vision changes or balance problems, it is an indication to immediately cease treatment and seek medical consultation. It is in my opinion unreasonable to expect these problems and symptoms and to look upon them as normal effects of properly applied chiropractic treatment. The chiropractic treatment given to Margaret Shannon by Harvey Howard was improper for her condition.

5. Consultation and referral. Dr. Howard did not adhere to a proper standard of chiropractic care when he failed to specifically refer Margaret Shannon for a neurological consultation. Given the history and the post-treatment symptoms, she should have been immediately referred to the proper medical specialist.

Modde to Doe
March 5, 1980

Enclosed are my report and opinions regarding the above case. I have given my opinions based on examination and review of the depositions, office records, and x-rays supplied by you.

My opinions in this case are based on usual and customary standards for chiropractic practice as taught by our schools and recommended by our state and national associations.

Summary and discussion

In his review of this case, the author failed to consider the important question of informed consent. Proper chiropractic procedure includes informing the patient of potential risks and alternative modes of therapy. This is a primary responsibility of a treating chiropractor that in this case was not fulfilled. The defendant's deposition reveals the following:

Q. Okay, Doctor, tell me—what were the inherent risks or possible complications that Jane Doe faced prior to neck manipulation?

A. I don't think there were any. If I did, I wouldn't have manipulated her.

Q. So, it's your testimony; is it reasonable for me to conclude that neck adjustment for your patient was a risk-free procedure?

A. I'd say yes, definitely.

Q. Okay.

A. I had nothing to indicate that there was any risk involved with manipulating her neck.

Q. So you did not explain to her prior to manipulation that there was any inherent risks?

A. No.

In this instance, which is typical of many cases of chiropractic malpractice, Ms. Doe was the victim of "the white-coat faith syndrome;" and Dr. Howard displayed his allegiance to chiropractic philosophy, which often leaves its graduates with a powerful orientation toward adjusting over a more conservative approach of rest, passive traction, and immobilization. If a conservative approach had been followed, Ms. Shannon could most likely have avoided the pain, the surgery, and the considerable risks of incomplete recovery.

The sudden onset of symptoms without recent trauma suggested that Ms. Shannon had some predisposing weakness in the cervical spine. Considering this possibility, the positive foramina compression test, severe cervical spasms, and the positive Soto-Hall test, Dr. Howard should not have attempted to forcefully mobilize the cervical joints, which would certainly have been swollen. Jammed, compressed, swollen joint capsules and discs that are forcefully mobilized are much more vulnerable to tearing than joints that have been relaxed and gently extended with passive cervical traction. The chiropractor did suggest to Ms. Shannon that she could obtain a prescription for pain medication, but all things considered this was scarcely adequate treatment. The patient should have had the benefit of more in-depth medical consultation. She apparently made a reasonably good postoperative recovery, but was left with some numbness and weakness of the left arm. There was the increased likelihood that arthrosis, fibrosis, joint restrictions, and further nerve-root involvement could develop at a later date.

The author assumes that the jury voted for the defendant because they believed that what he did was standard procedure, or that the plaintiff lied when she denied telling Dr. Howard's answering service that someone had sat on her head.

2. Leg Amputation Due to Delayed Medical Treatment

George Smith, a married 49-year-old construction worker, consulted a chiropractor one Monday morning complaining of severe leg pains of three days' duration. The pain was so severe that he was unable to sleep for more than two or three hours at a time during the three days prior to the consultation. He had to dangle the leg over the edge of the bed at night for relief.

Medical history

For years Mr. Smith had been to medical physicians for high blood pressure, and he had consulted an M.D. within the last year for a heart condition; however, he did not have any emergency medical treatment for two or three years prior to the onset of the leg pain.

Chiropractic consultation and treatment

According to records, during his initial consultation Mr. Hampton told the chiropractor that he had not been to a medical physician for his leg pain but was using a non-prescription pain medication. The chiropractor took x-rays of the lumbar spine and performed straight leg-raising and Patrick's tests. He did

not remove the patient's clothing but pulled up his pants and felt the skin on both legs. This was apparently an attempt to determine if there was some sort of circulatory problem in the lower extremities.

The chiropractor then explained to Mr. Smith that his leg pain was due to pinched nerves in his lumbar spine, which he allegedly explained by viewing the X-rays with the patient. Mr. Hampton was assured that adjustments of the lower back would cure his leg pain; so treatment began the same day. He was adjusted two times per day, but the pain did not lessen; in fact, during the second and third days, it increased and by the third had become so intense that Mr. Smith consulted his medical doctor.

Medical treatment and testimony

The vascular surgeon to whom his medical doctor referred Mr. Smith immediately admitted him to the hospital for a thorough cardiovascular and lower-extremity vascular examination. The surgeon operated the following day in an attempt to remove a large femoral artery clot from his left leg. It was too late to save the leg, and it had to be amputated at mid-thigh. On a subsequent affidavit the surgeon testified that if he had examined the patient earlier in the week, there was at least a 50 percent chance that amputation would not have been necessary.

Alleged malpractice

Like many others, this case involved multiple instances of chiropractic malpractice. The chiropractor did not obtain a full medical history nor conduct a proper chiropractic examination. This case was settled before trial in favor of the plaintiff. His death from cardiac arrest, a year after this event, may have been hastened by the tremendous stress of the amputation. He did palpate and X-ray the spine in the lower back area where he thought the trouble originated; however, this does not constitute a standard, acceptable chiropractic work-up for the patient's initial complaints. These initial omissions were compounded by the chiropractor's promising a cure without adequate corroborating information, and not immediately referring the patient for medical evaluation and pain medication. According to national standards, the charge of malpractice was entirely justified.

Defendant's presentation of facts

The plaintiff's attorney told the author that the defendant claimed he did suggest medication to Mr. Smith but the patient refused and continued to use the non-prescription pain medication. The defendant also stated that he made no promise of a cure, and only told the patient that he thought there was a possibility that the adjustments would relieve his leg pain.

On questioning, Mr. Hampton disagreed with all of the defendant's arguments and expressed amazement that his condition was allowed to progress without medical help. The defense countered with the argument that it was Mr. Smith's responsibility to seek medical help, and that the defendant was not responsible for what the patient did not do.

Summary and discussion

That it is not the duty of the chiropractor to suggest medical consultation is one of the weakest arguments presented in cases of this type. As a primary-care provider, the chiropractor can no longer use this excuse to avoid the responsibility for full management of patients—which includes referral and/or concomitant medical care.

3. Rupture of a Cervical Disc Following a Rotary Chiropractic Adjustment

Betty Jones, age 38, had no symptoms until she woke one morning with difficulty in moving her neck and general stiffness in her neck and upper back. She did not experience any recent traumas or unusual circumstances that could have caused this condition. After several days, she consulted a chiropractor.

Medical history

Two years before, Ms. Johnson had consulted a medical physician for what was ultimately diagnosed as bursitis in the left shoulder. At that time she had modest restriction of motion, and was given an exercise program and a series of cortisone injections. The injections were not immediately effective, but after an extended interval her complaints subsided. At that time she was not receiving care for any medical condition relating to her spine, but during the last two years, she had had a gynecological examination and an evaluation for proposed hormone treatment.

Chiropractic consultation and treatment

The chiropractor did an adequate history. He questioned Ms. Jones about the onset of the pain, any accidents, and significant medical problems.

Initially this case was discussed over the telephone and the author never received the chiropractic records. It was explained to him that they consisted of an A-P lateral neck X-ray and a notation on a treatment card of stiffness in the neck and difficulty with movement.

Plaintiff's presentation of facts

Ms. Jones said that although she had no experience with the profession in the past, she had consulted the chiropractor as a specialist for neck and spinal problems. She stated that the chiropractor took two X-rays of the neck, felt it, placed her on the table face down, and twisted her neck by placing one hand on the left side of her head and the other somewhere in the neck region. She felt a painful "clicking, popping" sensation and thought at the time that she may have been injured. The chiropractor reassured her that the reaction was normal and adjusted her again the following day. By this time the pain had so increased that Ms. Jones told him she was going to her medical doctor.

Medical treatment

Medical examination was carried out in a community hospital with a finding of a ruptured disc at C5 and C6. The admission record read as follows:

The patient is a 38 year old white female who has been in excellent health until approximately 2 weeks ago, when for no reasonable explanation she awakened in the morning with an extremely stiff neck. This lasted for several days, and she went to see a chiropractor who gave her a number of manipulations. This gradually improved the stiffness in her neck, but following the last manipulation several days prior to admission, she began to note extremely severe, almost incapacitating pain as well as numbness and tingling of her right arm. She had never had anything like this before, and it became progressively worse.

When I saw her in the office she was practically in tears complaining of extreme pain in the right arm which was worse with any kind of movement. The pain was mostly around the shoulder and it radiated down the posterior aspect of the arm. She felt as if the whole arm were numb and tingling. X-rays of the cervical spine, posterolateral and obliques were unremarkable for fractures.

The physical examination was unremarkable with normal upper-extremity reflexes and sensation pattern. The neck muscles did show marked spasm in the right posterior region, but there was at that time a full range of motion in the neck. Left rotation and hyperextension, however, caused increased pain in the upper right extremities. The medical impression at that time was of cervical radiculopathy and a ten-day program of physical therapy was instituted. The symptoms were somewhat relieved but further investigation was indicated.

The treating physician arranged a consultation with a neurosurgeon, and a preoperative diagnosis was made of an intervertebral disc lesion at C5–6 right. Surgery revealed “a soft, but deteriorating disc with a hole in a posterior longitudinal ligament posteriorly on the right side.” The records indicated that a large fragment on the right side gave way and a bit of it protruded back into the hole. The disc was removed as well as the end plate, and a defect in the posterior longitudinal ligament on the right side was demonstrated. A bone graft from the ilium was taped into place, and the wound was irrigated and closed in layers. Surgery was successful. The patient recovered without neurological deficit, and was left with moderate restriction of neck motion.

Alleged malpractice

The typical factors of chiropractic malpractice that this case represents include: inadequate examination, inadequate X-ray examination, and inappropriate treatment for the acute condition presented.

Defendant's presentation of facts

The defendant claimed that the two X-rays, a lateral and an A-P view of the neck, were adequate; and that he did a more extensive examination but did not record the findings because they were negative. The chiropractor also maintained that his adjustment was a routine prone cervical maneuver, and that the force he used was no greater than that employed with other patients.

Summary and discussion

The author's evaluation of this case was based for the most part on an oral discussion with the plaintiff's attorney; however, he did review the community hospital operation records.

If symptoms suddenly appear without recent trauma or injury, one must always suspect some preexisting, formerly quiescent condition of the area involved, and search for it with diligence and care. The fact that on initial examination there were no obvious neurological deficits does not excuse the practitioner from completing a standard chiropractic work-up on the patient, including reflex and sensory testing of the upper extremities and a thorough evaluation of the mechanical and structural condition of the area.

It is clear that the chiropractic examination was inadequate. Although in the author's opinion the prior bursitis had no real relationship to Ms. Jone's presenting condition, it should have indicated to the chiropractor that further investigation was necessary before any manipulation was attempted. Bursitis could signal some underlying nerve-root or ligament problem in the neck region. Further, the chiropractor's assertion that he had done an extensive examination, but not recorded negative findings, is indefensible; it is standard procedure for a primary health-care practitioner to record both positive and negative examination findings as a baseline for changes in the clinical picture.

The two X-rays, the lateral cervical and the posterior cervical, showed no unusual osseous pathologies or malformations. They were inadequate, however, because the intervertebral foramen can be accurately evaluated only with oblique views.

In an acute condition of this type, aggressive, forceful manipulation is contraindicated until swollen tissues have returned to a more normal state. The chiropractor should have prescribed rest, immobilization, and possibly ice and moist heat to reduce the swelling. Considering the facts presented, the forceful adjustment was the cause of the disc rupture and the tearing of the posterior longitudinal ligament over the C5–6 area.

The case was settled before the deposition stage in favor of the plaintiff.

4. Spinal Cord Contusion, Cauda Equina Syndrome and Paraplegia Following a Lumbar Roll

Ralph Cream, a 46-year-old, self-employed cook, slipped on some ice, twisted his back, and fell to the ground while hunting. He returned home, and though he felt lower back pain, thought that the problem would resolve itself. The following day he experienced weakness in his right leg. About three days later he consulted a chiropractor who adjusted him without performing an examination or taking X-rays. Two or three days passed, and the right-leg weakness increased. Mr. Cream consulted a second chiropractor who took some X-rays of the spine and proceeded to adjust him. This chiropractor also suggested that Mr. Cream go home, rest, and apply ice over the lower-back area. This tragic case of negligence resulted in the patient's being left a paraplegic with deep depression and suicidal tendencies.

Medical history

Ralph Cream had undergone chiropractic therapy intermittently for four or five years prior to this incident, but for the past several years had had no significant complaints and had sought no back treatment. He had been advised concerning his high blood pressure and obesity for several years. Medical care had consisted of antibiotics for a bladder infection; he had been treated previously for a kidney problem. He had had knee surgery while in the Army.

Chiropractic history and treatment

Upon entrance to the first chiropractor's office, this gentleman described how a few days before he had fallen on the ice and twisted his back. The chiropractic records indicate that the patient complained of severe pain in the upper lumbar region over the lumbo-sacral joint. The treatment given was listed on the clinical records as; "soft tissue manipulation of lumbar paraspinal muscles."

Although the history was the same for both chiropractors, the first did not perform any clinical examination or take x-rays. The second chiropractor performed an examination and took four x-rays of the lumbar spine. Under the heading of x-ray report on his clinical records was the following notation; "subluxation of the fifth lumbar and a pre-existing L5-S1 defect."

His diagnosis was; "lumbo-sacral subluxation and sprain of the lumbar paraspinal muscles."

The X-rays were sufficient in quantity, but it is evident that their quality precluded accurate evaluation of the status of the lumbar region. A further notation on the X-ray examination was "severe lordotic curve due to obesity." This will be considered later as suggesting caution in applying force to this region. The records show that a cursory orthopedic examination was performed and positive Bragard's and Patrick's tests and Laségue's sign were found. There was no further neurological or orthopedic examination of the lower extremities, but there was a clinical record indicating that the heart, lungs, and abdomen had been examined.

The chiropractic history indicated that the patient had been hunting and slipped on the ice, and had been adjusted once by another chiropractor three days prior to his entrance date. The records show that the chiropractor performed some type of adjustment to the lower back and instructed the patient to go home, rest, and apply ice to the lower back.

During a deposition, the chiropractor was questioned regarding the history:

Q. Don't you write down the history?

A. I'm not a medical doctor. My job is to correct subluxations.

Q. And you did—You don't recall any history that you took in this case?

A. The only history I took was what I showed you.

The plaintiff's attorney sought to determine the depth of the examination.

Q. Is this the extent of your examination, these four tests which you have marked as negative?

A. Uh, no, I did some others but did not write them all down.

Q. Did you perform a physical examination Mr. Cream?

A. These are the tests right here (defendant pointing to his clinical records)

Q. My question—yes or no—did you give him a physical examination in July of 1975?

A. No.

As the deposition proceeded, other vague answers regarding this examination were given:

Q. And that's the Smith-Peterson Test? Did you perform that test?

A: No. I didn't; it shows negative.

Q. Well, when did they show negative on there, does that mean you perform them?

A. Well, not necessarily. Not necessarily, no.

Under questioning regarding the treatment administered the defendant answered as follows:

Q. Was there any condition—strike that. Did you use a direct thrust adjustment technique?

A. I always treat direct. Not direct thrust now. That would be an adjusting on the fifth lumbar. I adjusted on the apex of the sacrum, which was direct.

The defendant was further questioned as to whether he felt there were any contraindications to a direct thrust to the spine. He answered:

A. Not that one that I used.

Under further questioning by the plaintiff's counsel, an attempt was made to justify the adjustment administered:

Q. O.K. How were you trying to relieve the pressure on those nerves that you are talking about there?

A. How did I do it?

Q. How were you trying to do it?

A. How did I do it?

Q. Oh, you did it?

A. I relieved the pressure temporarily, yes.

Q. How did you do that?

A. The patient was comfortable and made an appointment to come back.

Q. How did you do that? What were you trying to do?

A. I put him in the fetal position and then that opened up the facets in the back and I made the adjustment corrections.

Plaintiff's presentation of facts

Mr. Cream related to his counsel that after he left the chiropractor's office he returned home and followed the advice to rest and apply ice to his back. He went to bed at 11 that night and at one attempted to get up to go to the bathroom. His legs would not move, and he fell to the floor. He awoke his wife who called the local hospital. At six that morning he was admitted. Later he told counsel how the second chiropractor had twice manipulated him. The description leads one to believe that the adjustment administered was a lumbar roll:

Q. When he pressed on your back was that as he described? Maybe you can tell me where he pressed.

A. He pushed on the shoulder with his left hand and down on the knee more than anything. I didn't feel him press on the back. He probably did. He gave jerks on the knees and the shoulder and it really hurt my back.

Only the second treating chiropractor became a defendant. The patient and the plaintiff's attorney considered the first chiropractor's soft tissue treatment as non-contributory to the subsequent paralysis.

Medical treatment and testimony

After admission to the hospital, the medical work-up was begun with a general physical examination followed by thoracic and lumbar X-ray studies and a lumbar myelogram. The X-rays were essentially normal with no evidence of fracture or osseous pathology other than mild degenerative disease, primarily of the lower thoracic region. Minimal degenerative disease in the lumbar spine was noted. The report said, "The appearance of the dorsal and lumbar spine is normal." A lumbar myelogram was performed three days later with the following results:

Fluoroscopic study after contrast media has been injected revealed free flow throughout the lumbar region and into the mid-thoracic area. There is no evidence of filling defect or other significant abnormality.

Impression: Normal lumbar myelogram.

The report following admission stated the evidence that the patient is paraplegic with an irregular sensory deficit in the lower extremities and a sensory loss of the right lower extremity extending completely below the knee to the ankle region. Mr. Cream was described as essentially areflexic with only slight Achilles reflex activity. The report concluded with the following impression:

Paraplegia due to suspected herniated disc at either L3-4 or L4-5 with complete extrusion in the mid-line, compression of cauda equina.

The recommendations included further definitive studies and possibly a decompressive laminectomy, depending on the patient's clinical progress.

Approximately two years later, the patient was examined at another hospital. A complete spine myelogram was performed with normal findings and no suggestion of any defects. The examining medical physician theorized as follows:

Although one cannot be certain of just what happened, one can certainly postulate. I would guess that based on the violent nature of the manipulation that was carried out that this man had a traumatic dislocation at the thoracolumbar junction (T12-L1) with spontaneous relocation. In short, he had sudden, severe cord trauma to the conus medullaris and terminal cord. The fact that his bladder and bowel went out so completely without any tendency toward recuperation of function would suggest that the level was, indeed, about T12. As has already been suggested to him, I think that a large weight loss would give him distinct benefit in allowing him to function better with whatever motor power he has. I really do not believe that there will be any further recuperation of neurological function.

More than two years of intermittent physical therapy had not demonstrated much progress, and the patient was relegated to a wheel-chair and the use of his upper extremities only. He consulted a physician at the Mayo Clinic, but was not offered much hope for further recovery from his spinal cord injury despite the lack of objective neurological damage. It was the impression of his examining physician at the Mayo Clinic that he had suffered a "fairly acute myelopathy, both complete transverse and longitudinal."

He was dismissed from the clinic with the advice that if his condition worsened he could return for further evaluation. He subsequently sought laser therapy in an attempt to relieve the lower-extremity pain, but was told that this was not a practical solution. His life generally deteriorated: he became deeply depressed and eventually he became an alcoholic.

Alleged malpractice

His attorney alleged the following regarding the defendant's treatment of Mr. Cream:

- A. Manipulating the mid and low back with excessive force and violence so as to cause arterial damage to the spinal cord resulting in paralysis of the lower extremities.
- B. Manipulating the spine with such excessive force and violence as to cause pressure damage to the spinal cord which runs in the protective hollow space of the vertebrae of the mid and lower back.
- C. Failed to take a proper history.
- D. Failed to recognize that plaintiff's condition was one that should not be treated by a chiropractic physician, but rather a problem that should have been referred to a medical doctor.
- E. Caused nerve damage to the back of plaintiff by virtue of manipulating the back, thus creating the condition of paraplegia.
- F. Failed to do proper neurological testing prior to treatment so as to ascertain whether or not plaintiff should have been referred to a medical doctor.
- G. Forced the vertebrae of the back against the spinal cord (which runs in the protective hollow space of the vertebrae) so as to prohibit nerve impulses from being transferred down the spinal cord to allow function of various organs of the body and the lower extremities.

- H. Failed to do proper laboratory testing prior to treatment.
- I. Failed to discover or attempt to discover plaintiff's existing medical condition prior to manipulation.

Defendant's presentation of facts

Throughout the depositions and interrogatories, the chiropractor maintained that his examination and X-rays were adequate, and that he had administered a moderate, gentle adjustment to the lower back, which could not have caused any trauma to the spinal cord or nerve roots. The defendant said he did not record the findings because most of them were normal. He also defended advising the patient to go home and rest. He claimed that as a chiropractor he had no obligation to perform a medical history or seek outside consultation for the patient's complaints. He maintained that the patient was happy with the treatment and that he had made an appointment the following day for further treatment.

Independent chiropractic opinion

It was evident to the author after examining the chiropractic and medical records and the deposition, that the paraplegia resulted from a simple and obvious preference for aggressive adjustment when conservative care was strongly indicated. The evidence in Mr. Cream's case called for immobilization and rest. Had he been given a thorough chiropractic/orthopedic examination, the author believes there would have been positive indications that the patient should have simply rested, perhaps with pelvic traction, to allow time for resolution of the swelling in the spinal region. The author's report and findings were as follows:

August 1, 1978

Dear Mr. Cox:

Thank you for your letter of July 20, 1978, regarding the above case. I have examined the hospital records and the chiropractic records which you supplied me and I have checked standard chiropractic references and guidelines regarding the diagnosis and treatment of this individual. All of the references and data presented are from textbooks and materials which are standard in chiropractic colleges throughout the United States.

I will offer you my opinion of this case in the following outline form:

1. *Standard chiropractic practice.* It is accepted by all chiropractic colleges and state licensing boards that the chiropractor is responsible for differential diagnosis prior to administering treatment for any human ailment. The Chiropractic Council on Education (CCE) which is the new federal accrediting body for the chiropractic profession, states very clearly that the chiropractor as a primary care physician has the education and the responsibility to evaluate the condition presented by the patient and refer to a medical practitioner if conservative chiropractic care is not indicated.

This evaluation would include the use of x-rays, physical examination, neurological and orthopedic testing and laboratory tests. The C.C.E. rules clearly define and present the chiropractor as having a primary responsibility of differential diagnosis and referral.

2. *History and patient's complaints.* On pages 12 and 13 of the plaintiff's deposition dated April 20, 1978, there is testimony by the plaintiff that his right leg was getting weaker. Weakness of an extremity following an injury can be a very serious indication of nerve impairment.

On pages 20 and 21 of the same deposition plaintiff stated, "He gave jerks on the knee and shoulder and it really hurt my back." This remark was in reference to the bilateral lumbar manipulation performed by the chiropractor which was described by the plaintiff on page 20 and 21 of his deposition.

Considering the history presented by the plaintiff, including the indication, weakness in the right leg, the chiropractor should have been alerted to the possibility of spinal cord involvement. The history then would have been an indication for a thorough neurological and orthopedic evaluation of the low back and lower extremities. I have examined the records of the chiropractor regarding his examination and in relationship to possible disc and spinal cord lesions; the examination is incomplete. There are numerous tests which are routinely done when a patient presents a history like that of the plaintiff.

3. *Treatment—medical consultation.* After doing a thorough orthopedic and neurological examination of a patient with the history and complaints as presented by the plaintiff, proper treatment basically would be bed rest and immobilization of the area injured which would be further irritated and compressed by forceful manipulation of the lumbar spine. Treatment which was given the plaintiff by the chiropractor would be definitely contraindicated. After a period of rest and assurance that there was no spinal cord involvement, manipulation can then be effective in realigning the areas which may have become mechanically deranged due to the injury. That is, manipulation can be effective in injuries of this type after the acute stage of the injury has passed, which would be approximately ten days to two weeks.

4. *Discussion and conclusion.* I have not had the opportunity to review the x-rays in this case, but it goes without explanation that the films must be of high quality to determine if there are any unusual osseous malformations or diseases before any active treatment is instituted.

Based on review of the records which have been made available to me, which include the plaintiff's deposition, office records of the chiropractor, Mayo Clinic records, and Memorial Hospital records, my opinions, regarding this case are as follows:

- A. The medical history as presented by the plaintiff should have alerted the chiropractor that there could be serious nerve root or spinal cord involvement.
- B. With the complaints and history as presented by the plaintiff, the chiropractor should have obtained neurological consultation to ascertain if there was any insult to the spinal cord.
- C. Proper chiropractic treatment for an injury of this type during the acute phase of recovery would be bed rest, a back support to reduce spinal motion when ambulatory, optional use of home prone spinal traction, and the optional use of heat and cold to resolve any muscular swelling. Spinal manipulation during the acute phase would be contraindicated.
- D. The treatment given by the chiropractor was responsible for the insult to the spinal cord and the resultant lower extremity impairment.

If there is any further information required, please feel free to contact me.
Sincerely,

Peter J. Modde, D.C.

Discussion and summary

This individual saw two chiropractors. Both treated him improperly, and both were guilty of gross negligence. There were numerous indications that for an alert practitioner would have mandated a few days of bed rest under observation, not adjustment. One warning sign was the lateral lumbar X-ray, which showed an excessive lordotic curve that could allow accentuated anterior displacement of the lumbar vertebrae during the adjustment.

Despite the defendant's statement that he used only moderate force in adjusting the sacrum and lower back, Mr. Cream's description clearly shows the author that a lumbar roll was used. This procedure can be a vicious assault on the spine and nerve root when there is attendant swelling of the surrounding tissues of the spine.

This case was settled after the author's deposition for the plaintiff for the full amount of the policy.

5. Partial Facial Paralysis and Brain Stem Trauma Related to Apparent Barrè-Leou Syndrome

Jane Post, a 32-year-old Iowa housewife, consulted a chiropractor for headaches, neck pain, and upper-back stiffness. Her subsequent spinal adjustment resulted in partial facial paralysis, dizziness, loss of equilibrium, slurring of speech, and ringing in the ears. This case was presented to the author by telephone, and his file does not contain detailed records of her medical history. He was told, however, that when she entered the chiropractor's office, Ms. Post was in good health and not under active medical treatment.

The chiropractor palpated the neck region and performed standard tests for complaints involving the neck and upper back. The plaintiff stated to her counsel that after the chiropractor took X-rays of the neck region, he manipulated her neck while she was in a supine, or face-up, position. She explained the treatment as a rapid twisting of the head and neck, first left and then right. This description resembles a supine cervical rotary break, a standard adjustive procedure taught in the majority of chiropractic colleges. Immediately following the adjustment she began to feel nauseous and nervous, and she had difficulty orienting herself to her surroundings. She was not able to return home from the office, and an ambulance was called to transport her to a local hospital.

Medical treatment in this case was passive observation following a medical work-up. There were no indications for surgery. A medical opinion was that the rotary neck adjustment had compromised blood flow to the brainstem and base of the brain by impeding the vertebral arteries supplying those areas. The alleged malpractice was the use of excessive force. There was no real argument about the rest of the chiropractic work-up. The defendant maintained that the adjustment was not uncalled for, and that during manipulation he did not use excessive force. He said that the procedure was routine and he practiced it as he was taught in school. In this interesting case, however, the defendant gave an affidavit that his school did not teach him to be cautious regarding rotary adjustments and that he had had no instruction concerning possible insult to the vertebral arteries. Initial research indicated that he was correct in this and in his subsequent deposition he stated that he felt his school was negligent in this regard. He maintained throughout the case, however, that he had followed standard, appropriate procedure in all of his activities with the patient.

Discussion and summary

The author's oral opinion as given to the plaintiff's counsel in this case was that the work-up leading to the adjustment was adequate and appropriate, and that with the symptoms presented, cervical manipulation would have been indicated. The malpractice was in the method chosen. Massive medical evidence indicates that a supine cervical rotary break is a violent adjustment that leaves the vertebral

arteries severely vulnerable to trauma and results in deprivation of blood flow to neurological structures. The defendant did not present any chiropractic testimony on the force used or choice of adjustment method.

This author's opinion was that supine cervical rotary break is a vicious maneuver with no place in the adjustive armamentarium of a chiropractor. In this case it should never have been used. With all the evidence available there was no defense, and the case was settled before trial for the full limits of the policy. The patient was left with partial, residual facial paralysis and other disabling and annoying symptoms.

6. Paraplegia Following Prone Lower Thoracic Adjustment over Weakened Osseous Structures

James A. Ridgely, a 59-year-old bookkeeper with a history of prostate and bladder problems, entered a chiropractor's office seeking relief for vague lower-back pain. The result was hospitalization with paraplegia, and premature death resulting in part from the complications of this trauma and carcinoma of the prostate that had metastasized to the spinal column.

Medical history

Mr. Ridgely had been under medical care for several years for a prostate and bladder infection. He had recently sought medical treatment for continuing urinary problems. He had vague, minimal back pains for several months. His medical physician told the author that these pains were related to his urinary problems and were referred from the bladder and prostate.

Chiropractic consultation and treatment

Dr. Robert Smith, the chiropractor whom Mr. Ridgely consulted took a very brief, inadequate history and did not elicit from the patient his history of bladder and prostatic difficulties. He did not question the patient on any current medical treatment, but proceeded to perform a brief spinal examination and X-rayed the thoracic spine. The X-rays were adequate in number, but they were somewhat overexposed and could not be considered adequate for a determination of bone pathology. Dr. Smith analyzed them from a structural standpoint and concluded that Mr. Ridgely had subluxations in the mid- and lower-thoracic region. He placed the patient on the table and proceeded to perform a routine posterior to anterior thrust on the lower thoracic area. Mr. Ridgely experienced extreme pain immediately following the adjustment, and later that evening his wife had him admitted to a hospital.

Initially the patient maintained that his examination was adequate, but that the adjustment seemed forceful. He was disturbed that it was not explained that he might suffer adverse consequences from the treatment.

Medical treatment

Medical treatment for this condition was merely supportive as it was discovered that Mr. Ridgely had a prostatic carcinoma that had metastasized to the lower-thoracic vertebrae, rendering them extremely vulnerable to any invasive force. The patient was maintained in the hospital with supportive care, but he rapidly deteriorated and died about six weeks following the initial chiropractic treatment. Primary medical testimony in this case was that the patient's death was hastened as a result of (1) the hospitalization and inactivity, and (2) the adjustive force, which was the obvious cause of the collapse of the lower-thoracic vertebrae and the resulting spinal-cord damage.

Alleged malpractice

Complaint for Damages

Plaintiff's aver:

1. That now and at all times material hereto, plaintiffs were husband and wife and were residents of King County, Washington.

2. That now and at all times material hereto, defendant was the owner and operator of defendant Chiropractic Center.

3. That during November, 1967, plaintiff underwent chiropractic examination, x-rays, and adjustments by defendant at defendant Chiropractic Clinic.

4. That the aforesaid adjustments resulted in disability to plaintiff; pain both physical and mental; loss of ability to walk; spinal cord damage; paraplegia; bladder function problems; and other matters. That as a result, plaintiff wife has been deprived of the relationship she formerly had with her husband and the circumstances of her life have been materially changed. That the full nature and extent of plaintiff husband's disabilities are as yet to both plaintiffs unknown. That plaintiff husband has incurred work loss and will continue to incur loss of earnings and an impaired or destroyed earning capacity. That special damages have been incurred in an amount not presently known and will continue to be incurred in the future.

5. That the aforesaid disabilities occurred as a direct and proximate result of the failure of defendants and each of them to follow the accepted standard of care; that plaintiff husband did not give an informed consent to the treatment and the risks thereof involved; that defendants failed to diagnose and/or determine the abnormalities of plaintiff husband's spine prior to the manipulations in question. That other conduct will be set forth upon discovery. That defendants violated their agreement that the injuries suffered would not occur.

6. That by reason of the facts, matters and things herein above set forth, plaintiffs and each of them have been damaged as a direct and proximate result of the conduct aforesaid of defendants and each of them acting through defendant.

WHEREFORE, plaintiffs and each of them pray damages of and against defendants and each of them in such an amount as shall be determined plus costs.

DATED this 25th day of May 1968.

Defendant's presentation of the facts

There was not much of a defense presented in this case, except that the examination and treatment were usual and customary for the complaints offered. The plaintiffs did not dispute this claim; their argument was based on Dr. Smith's failure to obtain informed consent and to diagnose the metastasis to the spine.

Independent chiropractic opinion

The author was asked to answer some interrogatories in this case and to give his opinion regarding the treatment; his answers were as follows:

Interrogatory 27

After discussion with the treating physician, it is my impression that Dr. Smith did not follow the accepted standard of care for chiropractors in this state. The accepted standard of care would include the following:

1. A thorough medical history.
2. A basic physical examination, including primary neurological and orthopedic tests.
3. Basic urine and blood testing as indicated, necessary x-ray examinations, an explanation of the diagnosis and possible treatment complications with the patient and consultation with various medical specialists if any disease process is discovered.

Interrogatory 28

With respect to informed consent regarding chiropractic treatment of the spine, the Licensing and Disciplinary Boards in this state advise that it is the chiropractor's responsibility to present and explain the possible consequences of treatment. It is also recommended that the chiropractor present himself as a doctor treating structural disorders of the spine only, but with the ability to differentiate diseases which require treatment outside the scope of the chiropractic license.

Interrogatory 29

From my understanding of what occurred in the treatment of James Ridgely by Dr. Smith, an acceptable standard of care for chiropractic practitioners in this state was not followed. I am left with the following impressions:

1. Dr. Smith did not take an adequate medical history to determine if the patient had been treated for any significant medical conditions.
2. Dr. Smith did not perform usual and accepted neurological and orthopedic examinations to uncover or rule out any underlying disease process.
3. Dr. Smith did not perform usual and accepted urine or blood tests to determine internal disease conditions.
4. If urological, neurological or internal disorders are discovered, it is accepted procedure to have a consultation with a physician in that area of training.
5. It is recommended by the Chiropractic Disciplinary Board, the Chiropractic Licensing Board, and both state professional associations that a chiropractor should have patients' x-rays reviewed by a medical radiologist if there is any question about the presence of bone pathology.

Discussion and summary

This case clearly shows that a step missed in appropriate, standard procedure compounds the problem as the clinical steps proceed. Dr. Smith stated that during his entire examination of Mr. Ridgely he followed accepted, standard chiropractic procedure. This is obviously untrue. Had the history been properly performed, he would have discovered the prior bladder and prostate problems, which would indicate immediate referral to a urologist or to the patient's general medical physician. The history would

not necessarily have ruled out chiropractic care, but an approach other than a forceful prone adjustment would have been indicated. If Dr. Smith had made a proper X-ray evaluation, the appropriate conclusion would have been to refer Mr. Ridgely and not to attempt to adjust the lower-thoracic spine.

Dr. Smith's failure to obtain Mr. Ridgely's informed consent was another important, punishable omission.

7. Vertebral Artery Compression Trauma Following a Cervical Rotary Adjustment

Harold Cox, a 41-year-old, athletic, healthy individual with no significant medical history, consulted a chiropractor for stiffness in the neck region. There was no particular trauma involved, and the mild pain had been developing for about eight weeks. Cox performed physical labor as a full-time employee of a paper company.

Medical history

This man had not been hospitalized before the incident and he had not experienced any significant illness or accidents relating to the spine or any major body system. He was not taking any drugs, but he had been under chiropractic care periodically on a maintenance basis for general back complaints.

Chiropractic consultation and treatment

Mr. Cox consulted a chiropractor on a Wednesday morning for a "catch" in his neck and stiffness. He did not complain of any other symptoms at that time. The chiropractor manipulated his neck, and as stated in the defendant's deposition, the patient "tensed up" during the adjustment. His neck remained severely stiff and motion was restricted following the adjustment. Three days later Cox returned for more treatment, and he stated that this time when his neck was being adjusted "everything started to go 'round.'" He related in his deposition that everything was spinning and he felt so weak that he could not stand up. The chiropractor helped him leave his office and had him sit on the curb to wait for his wife who had been called to pick him up. He was afraid to stand by himself and when he returned home he began to vomit and again experienced extreme vertigo. He had to crawl along the wall with his wife's help to get to his bedroom. Mr. Cox was admitted to the hospital the next morning and remained there for testing and treatment for approximately 15 days.

Before the chiropractor administered treatment, he performed a cursory examination of the neck but he did not take any X-rays of the area. Upon questioning he said, "I don't have any X-rays."

Medical Treatment

Upon hospitalization, Mr. Cox was examined by several medical physicians, including a general practitioner, an internist, an orthopedist, and a neurologist. The neurological examination did not disclose any evidence of brain or nerve impairment, and the brain scan and lumbar puncture were normal. Following admission the patient did improve. There was still slight impairment of his equilibrium, but he was able to walk with minimal assistance. The admitting diagnosis was "vertigo and unsteadiness after chiropractic manipulation." The discharge diagnosis was "vestibular disturbance, possibly secondary to vestibular ischemia due to compression of the vertebral arteries." All the consultant physicians left a question mark as to the long-term prognosis of the equilibrium problem.

About nine months after the incident, another consulting neurologist retained by the plaintiff's counsel gave a diagnosis of "probable brainstem infarction, now improving." He wrote that this most probably resulted from ischemia in the area supplied by a branch of the vertebral basilar artery system. The consultant neurologist concluded his report with the following:

At this time, his symptoms are minimal and he is recovering. It most probably will be a period of one to two years from the time of the injury before a final evaluation can be made as to

the presence or absence of permanent effects from the injury. The major impairment now is one of difficulty with balance under certain conditions.

Near the time of the trial, the patient was still having problems with his balance, and he said, "Things moved in and out of my vision . . . My vision jumps." He was also experiencing severe pain in his head that would shoot over the left ear and result in a generalized occipital headache. He was having great difficulty at the time performing his normal work.

His counsel sent Mr. Cox to another chiropractor in the community. He was examined and X-rayed with a diagnosis of "a severe, chronic cervical strain with neuropathy." The X-rays did not reveal any abnormal pathology, but the chiropractor noted in his report that there was a subluxation at the first, sixth and seventh cervical vertebrae. The consulting chiropractor also treated the patient for about eight weeks. The treatment, which was administered nearly a year after the hospitalization and neurological work-up and consisted of mild cervical manipulation, apparently helped to resolve some of the neck spasticity for the patient gradually improved.

Alleged malpractice

In his complaint for damages the plaintiff's counsel outlined the facts: that a healthy 41-year-old male submitted himself to chiropractic care and was left with an indefinite prognosis regarding his body balance and the neurological status of his brainstem. He alleged that the treating chiropractor should have done a thorough examination, taken X-rays of the upper back and neck, and referred Mr. Cox immediately following the first manipulation when he should have suspected that things were not quite right. He had Mr. Cox examined by a psychiatrist who reviewed his excellent work history and 21-year marriage. The psychiatrist's report said, "Mr. Cox was definitely not a malingerer in any sense of the word." He felt that Cox's injuries were authentic.

Defendant's presentation of the facts

The defendant argued in his depositions that he performed usual procedures for a chiropractor, and that the symptoms presented and the X-rays findings did not merit a thorough examination. He described his adjustment as not a harsh maneuver but as one that employed only as much force as the patient would have received in any office in his area. He further stated that dizziness and equilibrium problems are a normal result of chiropractic manipulation of the neck and that his advice to the patient to go home and rest was adequate and normal procedure.

Independent chiropractic opinion

After examining all of the clinical records, consultants' reports, chiropractic treatment records, and the plaintiff's summary of the case, it was quite evident that the defendant and this author viewed the matter in different ways. This author found several areas of disagreement, and after a thorough review of the defendant's deposition issued a report that included the following points:

USUAL AND CUSTOMARY CHIROPRACTIC CARE FOR THE CONDITION DESCRIBED IN MR. BROWN'S CASE

1. *Medical history.* With a complaint of severe neck stiffness and pain, a medical history would first be obtained to determine if any underlying medical conditions were causing the problem. At this point if a condition was discovered, a medical consultation or referral would be in order.

2. *Orthopedic neurological examination.* For a complaint of this nature a thorough survey examination would be performed on the area involved. This would involve certain reflex tests, pinwheel

examination, and vascular and nerve tests to determine any areas of pathology related to the neck and upper extremities.

3. *X-ray examination.* It would be usual care to take X-rays of the neck area to look for any osseous pathology or joint disorders. This is very important, for if there is an osseous anomaly in the atlantooccipital region, the vertebral arteries are extremely vulnerable to twisting or rotary manipulation. For example, if spondylosis or degeneration were found in the neck, forceful manipulation would be contraindicated.

4. *Chiropractic treatment.* If after initial manipulation for a neck disorder of this type the patient experiences extreme tightness or tension, the condition should be reevaluated and possibly no further adjustment attempted. Again, it is important to "read" the body in such circumstances and to realize that muscle contractions are often a form of protection for the joint structures.

Conclusions. It is the author's opinion that the chiropractic treatment administered to Mr. Cox was not proper and acceptable according to the standards of care in this state. The patient should have undergone a thorough medical history, orthopedic and neurological examination, X-rays of the cervical spine, and possibly blood and urine testing. With the information supplied the author believes that the manipulation administered caused the medically diagnosed vertebral artery trauma and insufficiency. Further this adjustment was not administered in a proper manner for this condition.

Discussion and summary

This was a fascinating case to review because all of the medical consultants, including the neurologists, could not pinpoint any residual anatomical trauma. The medical X-rays were within normal limits, the brain scan was normal, and no neurological tests indicated significant neuropathology or nerve damage. The blood flow to the brain was unremarkable and within normal limits. Yet this individual underwent only two cervical adjustments and experienced a terrifying and prolonged episode of symptoms. This underlines the vulnerability of the vertebral arteries, particularly to any manipulation in which the neck is rotated beyond the normal, passive range. What the author can ascertain from very sparse records is that the patient had been administered a supine rotary cervical adjustment. The first time this was without severe results, but the subsequent adjustment was doubtless responsible for compression of the vertebral arteries, which compromised blood flow to the brainstem. The results could have been much worse; Mr. Cox could have been left with paralysis or other severe neurological or vascular deficits.

In the author's opinion, this is a case in which the adjustment was given in good faith but without proper preparation and consideration for the vulnerability of the affected region. The case was settled in favor of the plaintiff before trial.

8. Destruction of Hip Joint and Acetabular Cavity Due to Delayed Treatment of Acute Osteomyelitis

Leo Brown, a 29-year-old white male employed as an encyclopedia salesman and night auditor, in apparently good health, noticed pain in his left hip one day while he was getting out of his car. During the day the condition worsened and that evening his wife took him by ambulance to a local private hospital. The lower back and hip were X-rayed and from the results appeared normal. He was given a pain medication and was followed up by a local medical physician. The pain persisted and he was referred to a chiropractor by his brother-in-law. The past medical history was unremarkable.

Chiropractic consultation and treatment

Mr. Brown was seen by a total of three chiropractors, the first over a period of 19 days. He was X-rayed twice and received two manipulations over the lower back and hip area per day. The pain persisted,

and again the patient went to the local hospital emergency room. A medical physician examined him and ordered blood work, noted no particular abnormalities, and released him with a temperature of 101 degrees.

Following his release from the medical doctor, he visited a second chiropractor who gave him two treatments consisting of massage and trigger-point therapy. The chiropractor then released Mr. Brown with the suggestion that he return in ten days if the symptoms did not disappear.

Mr. Brown visited a third chiropractor two weeks after his release from the hospital, and again he was X-rayed and examined, this time while fully clothed. He told the chiropractor that his "hip was moving" and that he had severe pain over the left hip area. The third chiropractor took specific views of the lumbar spine, different from the 14 × 36 full-spine views performed by the first. There were no lab tests ordered and no specific view taken of the hip joint. The clinical examination and history records did not reveal the prior hospital treatment, which would have been of significant benefit in evaluating the problem.

The patient was subsequently administered 43 side-posture adjustments to his hips and lower back, despite increasing pain and splinting muscle spasms throughout the latter. When Mr. Brown questioned the chiropractor about seeing a medical physician, he answered, "If you go for medical service, they'll just cut you up." The chiropractor then promised to cure him; he said that the hip was out of adjustment and that it would just take time to reset it and get it to "hold."

At each visit, Mr. Brown was treated with adjustment, ultrasound, whirlpool, and manual massage over the area to stimulate circulation and promote healing. The chiropractor told him, "The body has the ability to heal itself, whether it be infection or inflammation." While the patient was being treated he purchased crutches, as he was now unable to get about unassisted.

Plaintiff's presentation of the facts

In his deposition the patient stated that he was promised a cure and was discouraged from seeking further medical treatment. The third chiropractor's assertion that a medical doctor would "cut [him] up" was a particularly powerful dissuasion. The plaintiff's counsel, in a letter to the author, related the following:

I am informed by Dr. Smith of General Hospital that the manipulation of the leg and hip was not in the best interest of the patient. In addition, it is obvious that the chiropractic and medical doctors who examined Mr. Brown prior to the workup at General Hospital were in error. My own independent medical research indicates that acute osteomyelitis must be treated immediately, and failure to diagnose and treat will result in severe destruction of the hip joint. I have reviewed Campbell's *Operative Orthopaedics*, pages 1300–1311; "Late Results in The Treatment of One Hundred Cases of Acute Haematogenous Osteomyelitis," *The British Journal of Surgery* (March, 1954) and the article, "Acute Osteomyelitis," *The British Medical Journal* (June, 1956).

Medical treatment

Approximately one week following the conclusion of his 43 chiropractic adjustments, Leo Brown was admitted to a university hospital with a diagnosis of "pyogenic infection, left hip with subluxation and gross destruction of the left hip." The history obtained on admission was noted as unremarkable, and his physical and neurological examinations were generally normal. Pressure over the left greater trochanter and motion of the left hip were extremely painful. All other vital signs were stable. Left-hip X-rays revealed an interior dislocation with bony erosion and destruction with false acetabular formation. The hospital-course summary was as follows:

The patient was placed at bedrest and in Buck's traction with an abduction pillow. He underwent routine preoperative evaluation, and on 2/7/77, he underwent an anterior exploration of his left hip. At surgery, he was found to have severe destruction of the acetabulum and femoral head cartilage. There was a false acetabulum formed. The hip had been subluxated anteriorly and was unable to be completely relocated.

The client was discharged approximately one month after admission and followed as an outpatient. His disability was rated as permanent and partial, and he walks with a noticeable limp, using a cane.

Alleged malpractice

Plaintiff's counsel, in presentation of the Complaint for Damages, implicated several factors of the chiropractic treatment. Included were the performance of an inadequate history, examination, X-rays, and laboratory studies; inappropriate treatment in the form of discouraging the client to seek medical consultation; and excessive and inappropriate treatment for the underlying condition.

Defendant's presentation of the facts

The three treating chiropractors maintained essentially the same position throughout their depositions: that their treatment was appropriate for lumbar neuralgia, which in their opinion was the cause of the hip pain. They testified that the examinations and X-rays were appropriate and adequate for their profession, and that it was the patient's responsibility to seek outside medical care if he chose. There are severe contradictions, however, in their depositions. Further, when the patient asked about referral he was discouraged severely with a threat of maiming surgery. This is a gross violation of a proper standard of care, and in the author's opinion represented total disregard for the patient's welfare.

Independent chiropractic opinion

The author issued a report on this case listing seven instances of severe negligence that figured in Mr. Brown's being permanently disabled:

1. There were inadequate X-rays done to properly make a diagnosis of a hip condition.
2. The history was inadequate in reference to his past hospital care, which would have been a crucial factor in assessing further care or consultation.
3. The examinations performed by all of the treating chiropractors were deficient.
4. Medical consultation should have been sought as the symptoms worsened under consistent manipulation.
5. The treating chiropractor ignored the severely "splinting spasms" in the hip region and continued treatment despite reports from the patient that the pain was increasing.
6. The patient should have been sent directly for pain medication and laboratory analysis.
7. The promise of cure is a violation of a proper standard with the statement, "The body has the ability to heal itself, whether it be infection or inflammation."

Discussion and summary

Reading the depositions in this case was a painful experience; all sorts of warning signs demanded that this individual be referred for needed medical care. Mr. Brown was the victim of three chiropractors who deceived him and overtly and covertly discouraged him from seeking proper treatment. His examina-

tions were superficial—one conducted while he was fully clothed—and he had no opportunity to receive a proper work-up until it was much too late to halt major hip destruction. It was, of course, completely incorrect to assert that whirlpool, massage, and ultrasound therapy could resolve such an infection. The promise of cure without absolute knowledge of his condition was a profound violation of good practice standards. The author's report concluded as follows:

The history was inadequate. There were insufficient laboratory and physical examinations performed. The proper hip x-rays were not taken, which, in my opinion, resulted in mis-diagnosis, and thus improper treatment was administered. Pain in the left hip literally "sticks out at you" when one examines the record, and it is very evident that it was not examined and treated properly.

This case was settled in favor of the plaintiff for the full amount of the policy of one chiropractor and an undisclosed portion of the policies of the other two.

9. Post-Surgical Death Following Delayed Treatment for Subarachnoid Hemorrhage

Mrs. Jane Doe, a 59-year-old housewife with a history of high blood pressure, emphysema, and gastrointestinal problems, saw a chiropractor for neck and lower-back pain that began when she lifted some railroad ties in her yard. Approximately six weeks from the date she entered the chiropractor's office, she was dead.

Medical history

Mrs. Doe's medical history revealed no conditions related directly to spinal or nerve problems. In the past she had complained of back pain, but she had not had any active treatment for it.

Chiropractic consultation and treatment

Chiropractic clinical records consisted of one 8½ × 11 sheet with a case history at the top as follows:

Cervical-occipital-frontal HA-inter-scapular pain and pain at LS (lumbo-sacral) -onset Wednesday night, very sick, emesis in bed all day Thursday—associated with lifting railroad ties.

The X-ray findings listed on this sheet were:

ASL-AXL-C567 discopathy and spondylitis—no history of spinal injury; C7-T1, PR-T11 with left lumbar scoliosis.

The sheet includes a brief history and X-ray findings. On six occasions from May 24 to June 24, 1967, Mrs. Doe was adjusted with a diversified technique and a lumbar roll for the assessed subluxation. On the entrance date (5/24/76) there was the notation 194/120, most likely a blood pressure reading given to the chiropractor or taken in his office. The record indicates that she had improved on 5/25/76, but on the following day complained of drowsiness, vomiting, and difficulty hearing. On the subsequent visit she reported a lessening of back pain but fatigue and headaches.

Surviving spouse's remarks

Mr. Doe indicated in his statement to the plaintiff's counsel that the chiropractor was informed of the onset of the following symptoms:

Sudden onset of pain into the neck and head area; severe headaches; fever; sleepiness and confusion.

Medical treatment

Mrs. Doe was admitted to the hospital on June 29, 1976, with a suspected brain aneurysm and subarachnoid hemorrhage. She was confined to bed and received medication to lower her blood pressure. Drugs were also administered to strengthen the clot around the surface of the suspected aneurysm to decrease the chance of re-bleeding. The treatment was unsuccessful and she died the following day. Upon questioning by the plaintiff's counsel, the medical physician who treated her gave the following opinion regarding the likelihood of her survival and improvement if she had been treated after her first bleed in May:

- Q. And she died the next day.
- A. And she died the next day. The unfortunate thing is there really was not a great deal of time to treat her because of the third hemorrhage which ensued before any surgical treatment could be carried out.
- Q. If the deceased had seen you and evidenced the same symptoms soon after her first attack, would you have been able to diagnose the problem she had?
- A. Any patient that would present in our office with a headache and stiff neck of sudden onset, I'm quite certain would receive a spinal tap, which in her case would have shown blood, and the other tests would have been carried out so I would feel fairly certain that it would have been diagnosed.
- Q. Now if she had seen you initially and you had diagnosed the aneurysm, what could you have done to treat her?
- A. Our treatment would have been to hospitalize her immediately and treat her with bed rest, lower her blood pressure to a normal level, and perform an arteriogram to determine the source of bleeding and then if there was no bleeding for a week to ten days, to consider some type of surgical procedure to obliterate the aneurysm. Sometimes these are done locally here in town. Sometimes they are sent to the University, depending upon the technical problems involved.
- Q. Now I realize it's difficult to say with what likelihood of success this treatment could have been administered and impossible to say that with certainty you could have eliminated the problem, but I would like you to give your best opinion as to what the potentials would have been had Mrs. Whitman come to you in the beginning after the first bleeding.
- A. Well, since we know that she didn't bleed for maybe five weeks without treatment in terms of lowering her blood pressure or limiting her activities, presumably she wouldn't have bled, or she would have gone a longer interval had she been treated with lowering her blood pressure and decreased activity; so there would be an interval in which we could have operated upon her. Knowing where the aneurysm was would probably represent a mortality of 15% with maybe an additional 10% morbidity, meaning some significant neurological deficit from the success and a 25% chance of failure.
- Q. Failure being not necessarily death, with 15% mortality, another 10% morbidity.
- A. This is right.

The chiropractic spinal X-rays had been sent out for independent radiological appraisal. The conclusion was that the spine was primarily normal in the lower-cervical or lumbar region; however, some vertebral spondylitis or degenerative arthritic process was present. There was no evidence of any changes secondary to recent trauma. The radiologist further remarked that there was no evidence of subluxation in

the region of C1 and C2, but there was some bony spurring at the vertebral margins at the C5-6 and C6-7 interspaces.

Alleged malpractice

The plaintiff's counsel, supported by medical testimony, maintained that if the treating chiropractor had been informed of the symptoms presented by the patient and had referred her for immediate medical evaluation, there would have been enough time to adequately treat the condition after what was supposed to be her first bleed. He stated that instead the chiropractor continued to care for the deceased and indicated to her that the treatments would cure her.

Defendant's presentation of the facts

At the trial the defendant maintained that he had performed a thorough chiropractic/orthopaedic neurological examination, but failed to record the findings because they were all negative. This ridiculous defense is used in many cases where a practitioner has a high-volume practice and asserts that it is necessary to record only positive findings. The defendant further testified that he completed the examination in five minutes. Considering the complaints with which Mrs. Whitman presented, it would have been impossible to perform a proper history and examination in less than one hour. The chiropractor maintained that he was not responsible for the detection and diagnosis of a blood-pressure problem, that he treated strictly the spine. Under cross-examination he admitted that did not refer Mrs. Whitman for medical examination or suggest that she consider alternative care.

Independent chiropractic opinion

It was the opinion of the author, after a review of the records, that the patient should have been referred for a medical evaluation. The complaints presented are definitely not among those appropriately treated by spinal manipulation. The author's conclusions appear below:

I have checked standard references and texts used in chiropractic colleges and postgraduate symposiums, and the following is presented for your consideration:

1. The brief case history taken by the treating chiropractor lists symptoms: cervical; occipital; frontal; HA (headaches); of sudden onset accompanied with emesis. These symptoms are commonly understood by all health personnel to be related to cerebrovascular disease.
2. When symptoms of this nature are present, the usual procedure for a chiropractic doctor would be to alert the patient to the possibility of serious vascular problems and to perform routine orthopedic, neurological and physical tests to rule out or to confirm such disorders.
3. If the chiropractor did not wish to perform the tests, the patient would then be referred to a neurologist or to an internist for evaluation before any chiropractic treatment was administered. In this particular case, it was indicated that the patient should have been directly referred to a neurologist or internist for emergency medication and evaluation.
4. It is not indicated on the case history whether the blood pressure reading of 194/120 under the date of May 24, 1976, was taken by the doctor or was reported by the patient to the doctor, but with a blood pressure of this level, any spinal treatment to the neck or upper back area would be contraindicated until the possible cause was discovered and treated. In the presence of cardiovascular disturbance, rotation of the neck or upper back could further insult or impede the blood supply to the brain and cause further tissue damage.
5. On the case history sheet under the date of May 27, 1976, there is a notation that the patient had been hard of hearing since the sickness, and her veins had been bulging. The sudden occurrence is a definite sign of cerebrovascular disturbance.

Summary:

1. The history and symptoms indicated a serious cerebrovascular problem.
2. The high blood pressure level indicated a serious cardiovascular problem.
3. Chiropractic treatment has not been established to be effective for conditions of this type, and in this particular case would definitely be contraindicated.
4. This patient and her spouse should have been informed of her condition and she should have been immediately referred to a medical physician for emergency medical treatment and evaluation.

Discussion and summary.

At the conclusion of testimony, the judge instructed the jury that according to state law a chiropractor was not responsible for interpretation or diagnosis of a blood-pressure reading or a blood-pressure-related problem. In the author's opinion these remarks lost the case for the plaintiff. Had the case taken place today instead of well over five years ago, the defendant's position would not be upheld on appeal. Recent cases have firmly established that the chiropractor is responsible for all symptoms presented. If they suggest disorders requiring treatment which falls outside the scope of his practice, he must immediately refer the patient for appropriate medical evaluation.

If her chiropractor had exercised even the most minimal standard of care for his profession, Mrs. Doe would not have died. It was the firm opinion of the consulting medical physician that had she been seen after her first bleed early in May, testing would have exposed the fatal aneurysm in ample time for treatment.

10. Chiropractic Indoctrination Causing Delayed Treatment for Bacterial Endocarditis Resulting in a Brain Abscess

This case, which involves the chiropractic treatment of a 28-year-old male musician, illustrates so many important aspects of chiropractic philosophy and malpractice that the two plaintiffs' motions for summary judgment are included in full. Although they are lengthy, the significant points, particularly regarding the hold a chiropractor can exercise over his patients, can only be fully appreciated by reading the notions in their entirety.

The author was a consultant on this case. Because it was settled before trial for the full amount of the policy, there was no courtroom testimony involved. From what the author understands regarding the legal aspects, the first brief attempts to find the defendant responsible for medical practice standards; and in the second, supporting brief, additional chiropractic standards are put forth as the basis for the alleged negligence.

**PLAINTIFF'S BRIEF IN SUPPORT OF
MOTION FOR PARTIAL SUMMARY JUDGMENT**

The plaintiff, Thomas Doe was treated by Dr. Bob Smith between August 29, 1981, and March 31, 1982. Mr. Doe sought treatment from Dr. Smith because he had complaints that included neck and back pain as well as headaches. During January of 1982, plaintiff began having additional symptoms that got progressively worse over the next three months, including headaches, visual disorders, loss of balance, difficulty with speech and a loss of weight. On several occasions during his chiropractic treatment, Mr. Doe

complained to Dr. Smith that he felt he was getting worse and that the manipulative therapy was not getting results. The plaintiff was told by Dr. Smith that he would simply have to be patient and that improvement could be expected if Mr. Doe would allow time for the adjustments to work. Dr. Smith indicated that the longer a person's spine was out of adjustment, the longer it would take to get results.

After the manipulation of March 31, 1982, the plaintiff's condition was so bad that Dr. Smith had one of his assistants take the plaintiff to a medical doctor directly from the office.

The plaintiff was seen by a series of physicians including a neurologist and a specialist in infectious diseases who did several tests and determined that Mr. Doe had a bacterial endocarditis which had spread to the brain and caused an abscess. Dr. Ace, the neurologist, and Dr. Jones, the internist, have already given deposition testimony that a reasonably competent physician would have been able to detect and treat plaintiff's illness well before it spread to Mr. Doe's brain causing serious brain damage.

Plaintiff contends that this court should rule as a matter of law and should grant a motion for summary judgment deciding that the defendant, Bob Smith, engaged in the unlicensed practice of medicine during the period of August 31, 1980 to March 31, 1981, and the appropriate standard of care to govern this case of professional negligence is the medical and not the chiropractic standard of care.

STATUTES

Our state legislature, in setting up the Chiropractic Disciplinary Board, set forth a strong statement of public policy in favor of closely monitoring chiropractors in order to see that they were not practicing beyond their licenses, "Because practicing other healing arts while licensed to practice chiropractic and while holding one's self out to the public as a chiropractor affects the health and welfare of the people of the state." RCW 18.26.010.

RCW 18.71.011 provides in part as follows:

18.71.011 Definition of practice of medicine—Engaging in practice of chiropractic prohibited, when: A person is practicing medicine if he does one or more of the following:

Offers or undertakes to diagnose, cure, advise or prescribe for any human disease, ailment, injury, infirmity, deformity, pain or other condition, physical or mental, real or imaginary, by any means or instrumentality. . . .

(4) Uses on cards, books, papers, signs or other written or printed means of giving information to the public, in the conduct of any occupation or profession pertaining to the diagnosis or treatment of human disease or conditions the designation "doctor of medicine," "physician," "surgeon," "M.D." or any combination thereof unless such designation additionally contains the descriptions of another branch of the healing arts for which a person has a license. . . .

RCW 18.25.005 defines "chiropractic" as follows:

"Chiropractic" defined. For the purpose of chapters 18.25 and 18.26 RCW, the term "chiropractic" shall mean and include that practice of health care which deals with the detection of subluxations, which shall be defined as any alteration of the biochemical and physiological dynamics of contiguous spinal structures which can cause neuronal disturbances, the chiropractic procedure preparatory to, and complementary to the correction thereof, by adjustment of the articulations

of the vertebral column and its immediate articulations for the restoration and maintenance of health; it includes the normal regimen and rehabilitation of the patient, physical examination to determine the necessity for chiropractic care, the use of x-ray and other analytical instruments generally used in the practice of chiropractic: Provided, that no chiropractor shall prescribe or dispense any medicine or drug nor practice obstetrics or surgery nor use x-rays for therapeutic purposes: provided, however, that the term, "chiropractic" as defined in this act shall not prohibit a practitioner licensed under chapter 18.71 RCW from performing accepted medical procedures, except such procedures shall not include the adjustment by hand of any articulation of the spine: and provided further, that nothing herein shall be construed to prohibit the rendering of dietary advice.

DISCUSSION

It is well recognized that a motion for summary judgment should be granted only when the evidence, construed in a light most favorable to the non-moving party, is such that no genuine issue of the fact exists, e.g. *Adamski v. Tacoma General Hospital*, 20 Wn. App. 98, 193, 579 p.2d 970 (1978).

Plaintiff's motion seeks a determination as a matter of law that Dr. Smith has engaged in the practice of medicine and therefore must be held to the standard of care of a reasonably competent physician rather than a reasonably competent chiropractor. Plaintiff does not seek, at this time, a determination of whether or not the conduct in question did or did not violate the appropriate standard of care.

Plaintiff invites this court to review the brochures attached as exhibits to the affidavit of Thomas Watts, which were obtained from Dr. Smith's office and which the plaintiff has testified he saw and read in Dr. Smith's office when he was a patient there. After reviewing the brochures which Dr. Smith used in advertising and informing his patients of his methods, plaintiff contends that the conclusion will be inescapable that Dr. Smith engaged in activity prohibited by RCW 18.71.011 which provides that a person engages in the practice of medicine if he or she "Offers or undertakes to diagnose, cure, advise or prescribe for any human disease, ailment, injury, infirmity, deformity, pain or other condition, physical or mental, real or imaginary, by any means or instrumentality." This statute is offended by the defendant's own written materials, completely apart from the testimony of the plaintiff and Dr. Smith himself, and therefore plaintiff's motion should be granted even if defendant contends by affidavit that there is a dispute of fact as to certain portions of what the plaintiff was orally told by Dr. Smith.

Even if the statute were not involved, our courts have often used an estoppel rationale to preclude a practitioner from claiming that he should be held to a standard below that which he holds himself out as possessing. *Atkins v. Clein*, 3 Wn. 2d 168.100 p.2d 1 (1940).

In this case, Dr. Smith's brochures go far beyond a mere general contention that correcting subluxations can generally relieve back pain or generally make the patient feel better.

The brochure entitled "How Long Will It Take Me To Get Well?" contains the following statements:

Why can't the doctor tell how long it will take you to recover from a certain condition? Well, there are a number of valid reasons. Let us briefly examine a few of them.

1. The doctor must take into consideration the type of disease. Some sicknesses require more time than others. For example, a contagious disease will almost certainly take longer than a

common cold; a kidney disorder will probably require more time than a stomach condition, and so on.

2. We must consider the length of time the sickness has been existing. Generally speaking, the longer the duration of the disease, the longer it will take to get well. A condition that has been in existence for fifteen or twenty years is not commonly cleared up with a few adjustments. . . .

5. Rather often the patient has previously undergone an operation. Perhaps some major nerves were severed—nerves leading to the vital organ that is causing trouble. Cut nerves do not grow together again with nervous tissue; they are connected with what is called connective tissue—tissue without life. In such cases, it will take the chiropractor longer to produce results, as he must work through the smaller nerves to reach the point of disease.

This brochure must be viewed in the context that it is grouped with many others which purport to explain how it is that chiropractic is useful in treating every conceivable disease including such things as diabetes, emphysema and ulcers. The patient is told that the “doctor” must “take into consideration” various aspects of the patient’s “disease” and “sickness” before it can be determined how long it will be before it is “cleared up” by the chiropractor’s “adjustments.” The brochure goes on to explain the physiology of scar tissue and why it takes longer in such cases for the treatment to “reach the point of disease.” This must surely offend the portion of RCW 18.71.011 which prohibits anyone but a licensed physician from advising a person regarding human disease.

In another brochure, “Your 100 Year Heart,” Dr. Smith makes it clear to his patients that he recommends that he do a *heart examination!* This brochure explains in some detail that heart attacks are caused by the loss of elasticity of coronary arteries, thereby causing them to narrow and become clogged by arteriosclerosis. The pamphlet then goes on to give the following advice as to how to prevent the next heart attack:

This can only be accomplished by restoring the normal elasticity of the arterial walls. Your doctor of chiropractic can do this by locating and correcting the interference with the normal nerve function.

Your doctor of chiropractic is a specialist of the spine and nerves. He has years of training and experience in locating and correcting misalignments of the spinal column. . . . thus releasing the nerve and allowing it to function.

He can help your heart to a full life. Call him today for an appointment for a chiropractic heart and nerve examination.

CALL HIM TODAY . . . TOMORROW MAY BE TOO LATE.

This brochure goes far beyond a vague reference that chiropractic might be helpful to a person’s heart, but presumes to give a medical explanation of why the treatment makes scientific sense. It is to prevent such false and misleading medical explanations that the legislature passed RCW 18.71.011. The scare tactic of suggesting that “tomorrow may be too late” makes the appeal even worse. How many patients have elected chiropractic treatment over that of a cardiologist and died of a heart attack while waiting for the manipulations to restore elasticity to their arterial walls?

Dr. Smith’s brochures are quite detailed in discussing medical causation for such diseases as emphysema in the brochure, “Emphysema—America’s #2 Killer.” This brochure urges a person to see his “doctor of chiropractic” for help in understanding the “cause and correction of emphysema.” This brochure gives the following explanation of the disease as an aid to showing how a chiropractor cures it:

Chiropractic research has recently discovered that when the actions of the diaphragm and rib cage fail to coordinate with each other in breathing out, emphysema develops.

When it develops, the respiratory muscles lock the rib cage in a partially open position. When this occurs, the diaphragm must push much harder. This increases the air pressure in the alveoli and causes them to overstretch the bounds of their natural elasticity . . . and often the tiny air sacs are ruptured.

Another major breakthrough in the fight against emphysema occurred with the chiropractic discovery that the cause of emphysema is partly postural and partly neurological. The tiny nerve centers which control the tonicity of the respiratory muscles become affected. This brings on a change in the posture which locks the rib cage in the partially open position . . . and sets the stage for the dreaded emphysema.

Such questionable medical explanations of this disease are calculated to discourage patients from seeing medical doctors, since chiropractors are quick to point out that doctors are not trained to treat the spine and therefore can never get at the root of the problem.

Other examples of questionable medical explanations of various illnesses include the pamphlets on allergy and appendicitis. The brochure entitled "Appendicitis," claims that the disease is caused by a muscle contraction in the area of the appendix and that "chiropractic service is effective in removing the cause of appendicitis. . . ." The brochure then goes on to state:

This shows that there are many factors that can interfere with the transmission of the nerve impulse to body tissues and cause disease. The majority of these disease states are related to the spinal column so you should consult your chiropractor.

The role of the nervous system in controlling body function is a scientific principle. Chiropractors work in conjunction with this principle and consequently the correction of disease and the maintenance of health are the direct result of the nerve impulse once again functioning normally.

The brochure entitled "Allergy," claims that over 500 of the people receiving chiropractic treatment for allergies are completely cured. Apart from the questionable medical explanation for the disease itself, the brochure also affirmatively attempts to put medical treatment in a negative light by suggesting that medical doctors often cause more harm than good without understanding the root of the cause of the disease. Regardless of the merits of chiropractic studies, this is clearly giving medical advice that goes beyond the limits of RCW 18.71.011.

Is There a Cure for Allergy? As you can see, the real underlying cause of most allergies is not the allergen itself, but interference in the nervous system, caused by a bone out of its proper position.

That's why ordinary examinations such as scratch tests, patch tests, intranasal tests, trial-and-elimination tests and escalator diets seldom lead to treatments that produce cures. At best they can afford some relief if the sufferer can lead a restricted life and manage to avoid the substance that attacks his particular weakness. And one of the ironic and contradictory aspects is that many drugs that are supposed to produce cures are allergens themselves, which your body must struggle to combat.

The only real cure for allergy is to get rid of the weakness—to strengthen the body's natural defenses by restoring the ability of the nerve impulses to keep the body functioning normally.

Dr. Smith's literature gives a chiropractic explanation for virtually every disease imaginable and some of the diseases create significant risk to the patient if proper medical care is not obtained. The

brochure, "Epilepsy" tells the patient that chiropractic treatment for epilepsy is "highly effective" because of the following explanation of why seizures occur:

Distortion of nerve impulses can cause an accumulation of toxins in the brain. This accumulation of toxins continues until the maximum of endurance is reached. Convulsions follow. Toxins then are released from the brain and are eliminated by the kidneys.

Medical advice given by Dr. Smith is just as strong in other areas. Short quotes from various other brochures contain similar warnings of serious medical consequences if a patient does not get early and continuing chiropractic care.

Arthritis—The #1 Crippler

Given proper Chiropractic care, no care of arthritis can now be considered hopeless. Chiropractors throughout America are today helping thousands of arthritis victims. Early diagnosis, and proper chiropractic care may prevent severe crippling . . . and even if the disease has progressed to a serious stage, the victim has a good chance to recover at least some of his lost functions.

Prostate Facts For Men

A man with prostate trouble symptoms is advised to see a chiropractor without delay. The examination will quickly determine if he has the type of prostate condition which can be helped (without surgery) by chiropractic methods.

Amazing Stomach

Most feared of all is the silent ulcer. The victim suspects nothing while the condition grows serious. Bleeding may be the first sign. He may vomit bright red blood. Unvomited blood causes a black tar-colored stool.

In every case of peptic ulcer there is an increase in the hydrochloric acid secreted by the stomach glands. This means one thing: the fine, rather delicate nerve network supervising the digestive system has gotten out of balance.

Gallstones—What Chiropractic Can Do For You

If the stones are already formed in the gall bladder, chiropractic care can be of value. The gallstones will remain and increase in size so long as the excessive heat condition remains.

When this condition is corrected under chiropractic care, the secretion assumes a normal character. The chemical action of the normal secretion is such that it may dissolve the stones, which are being constantly bathed by the secreted bile.

The Story of Your Amazing Liver

For that reason, when liver disease is remotely suspected, it is imperative that you have a thorough chiropractic spine and nerve examination as well as the customary clinical tests.

Diabetes Mellitus

At the same time that the physician has been attempting to solve the question of diabetes through diet, the chiropractor has carried on a series of scientific experiments which have revealed the real cause of diabetes, and they have proven conclusively through the results obtained that the pancreas, liver and suprarenal glands are all at fault, and why?

THE CASES

Our Supreme Court has found drugless healers guilty of the criminal offense of practicing medicine without a license in several cases whose facts were not as strong as the case at bar.

In *State v. Pollman*, 51 Wash. 112, 79 Pac. 706 (1938), the Court considered a practitioner who ran a “magnetic and osteopathic institute” and advertised his ability to cure every conceivable disease “by kneading, rubbing, pressing and otherwise manually manipulating the body, limbs, muscles, and nerves, and by flexing and manipulating the joints” at p. 115.

The written publications of the defendant in the Pollman case bore some substantial resemblance to the publications distributed in this case. Dr. Pollman wrote:

The writer wishes to predict that the future will bring you Drugless Doctoring and that in about 15 years from now very little medicines will be used to cure diseases.

The people should wake up by this time and know that drugs is [sic] the power of deception by which so many are made to believe for many years that it shall cure them, but finally consult a Drugless Physician, who effects a cure.

The Court went on to confirm that the defendant’s conduct violated the statute prohibiting the unlawful practice of medicine and explained that their ruling was “to protect the people against deception” at p. 117.

In *State v. Greiner*, 63 Wash. 46, 114 Pac 897 (1911), the Court was faced with a chiropractor who diagnosed ailments with a vibrator and manipulated the diseased portions of the body. The Court felt that this treatment offended the statute and was practicing medicine (p. 51–2).

The science, if it be such, practiced by the appellant is clearly a mode of treating the sick and afflicted. As such it is, by all authority, subject to regulation. To call the method of treatment “chiropractic” and the treatments given “adjustments” does not change its nature. If the practice has any beneficial purpose at all its purpose is to heal the sick and afflicted, and to regulate the practice of healing the sick and afflicted is unquestionably within the acknowledged powers of the state.

Several years later in *State v. Pratt*, 80 Wash. 96, 141 Pac 318 (1914), the Court also held that a practitioner of “suggestive therapeutics” also was guilty of practicing medicine.

As practiced by the appellant, it consists of laying on of hands upon that part of the body where the trouble is and, quoting from appellant’s testimony, “upon certain parts of the spine that controls this—these nerves, or the nerves that control the organ; and I give certain suggestions which goes from my mind to the mind of the patient, and the mind of the patient controls his own body. That is the way the cure is performed.” The claim is also made that, by this laying on of hands, certain “vibrations” are sent through the body, that are instrumental in effecting the cure. That the mind exercises a powerful and oftentimes controlling influence upon the body cannot be denied, and we are offering no criticism upon appellant’s methods. We are only concerned with the fact that it is a mode of treating the sick, and as such can be practiced only after obtaining the proper certificate from the state medical board.

The case of *Kelly v. Carroll*, 36 Wn 2d 482, 219 P.2d, 79 (1950), was a medical malpractice case where a drugless healer was sued for misdiagnosing appendicitis. The court in that case said:

. . . One who does not have a license to practice medicine and surgery is, nevertheless, liable for malpractice when he assumes to act as a doctor, and is to be judged as if he were a doctor because of those acts.

The appellant’s theory that a drugless healer is licensed to treat all human maladies, and must be exonerated from all liability on his part, if he resorts only to the particular methods of his

cult for determining the nature of diseases and the remedies therefor, no matter how serious the consequences, cannot be entertained. That proposition, if accepted as true, would contravene a sound public policy (21 RCL 3838). It would render the legislature's exercise of the police power meaningless and ineffectual in requiring licenses for the treatment of human maladies. The essence of its purpose is to eliminate incompetent persons from holding themselves out to treat the public. A rule of *caveat patiens* would defeat such a purpose (at p. 492).

DATED this 10 day of September, 1982.

Attorneys for Plaintiff

SUPERIOR COURT OF WASHINGTON FOR KING COUNTY

Thomas DOE)	No. 82-1-0000-0
)	
)	
Plaintiff,)	
)	
Bob Smith, D.C. vs.)	
et ux Defendant)	

**PLAINTIFF'S SECOND BRIEF IN SUPPORT
OF MOTION FOR PARTIAL SUMMARY JUDGMENT**

TABLE OF CONTENTS

I. THE MOTIONS

II. THE UNDISPUTED FACTS

III. STATUTES

IV. LEGAL ARGUMENT

- A. The Defendant Should Be Held to the Medical Standard of Care Under Restatement 299A, Sec. (d) Because of the Way He Held Himself Out to the Public
- B. Invocation of the Medical Standard is an Issue of Law
- C. Courts of Other Jurisdictions Have Judged Chiropractors By the Medical Standard Where They Have Exceeded the Proper Bounds of Chiropractic
- D. The Defendant Failed to Obtain an Informed Consent to Treatment

V. CONCLUSION

I. THE MOTIONS

This matter comes before this court on a special setting November 10, 1982, at 1:30 p.m., for consideration of two motions for partial summary judgments. Plaintiff seeks a determination as a matter of law that Dr. Smith held himself out in such a way that his conduct must be measured by the medical standard of care rather than the chiropractic standard of care. Plaintiff also seeks a determination that as a matter of law Dr. Smith failed to obtain an informed consent, and that such a failure was a proximate cause of the plaintiff's injuries resulting from emboli caused by a bacterial endocarditis suffered by Mr. Doe early 1981.

II. THE UNDISPUTED FACTS

For purposes of this motion, plaintiff contends that there is no material dispute on the following facts:

1. Thomas Doe was first seen by Bob Smith, D.C., on August 29, 1981, for symptoms including headaches; light-headedness; back, mid-back and low-back pain; fatigue, and loss of sleep (Smith dep., p. 29, lines 9-15).

2. Dr. Smith's initial examination included a spinal examination; x-rays; numerous "neurologic and orthopedic tests;" taking plaintiff's blood pressure, pulse, height and weight; dynamometer tests to check relative hand strengths; and a thermoscribe examination of plaintiff's spine to determine if there were unusual areas of heat (Smith dep., p. 17, line 23, p. 19, line 4. See also Doe's records).

3. Smith made findings on August 29, 1981, that Mr. Doe had subluxations in the areas of his upper neck, mid-back and lower back (Smith dep., p. 22, lines 22-24, 5).

4. Dr. Smith recommended that the subluxations required adjustments and indicated he "would initiate chiropractic care and give the spinal adjustments according to the patient's response and what we felt at the time would be necessary, in our opinion, to help him" (Smith dep., p. 28, lines 18-22).

5. Dr. Smith's office records do not contain any indications regarding the patient's symptoms or progress from September 9, 1981 to March 27, 1982, except for the phrase "feels better" on October 12, 1981 (see exhibit 1 to Smith dep.—his office records).

6. Dr. Smith contends that so far as he can recall, ". . .there weren't specific major changes. I mean major ups or downs. . . ." in the patient's original symptoms up until March 27, 1982 (Smith dep., p. 46, lines 4-10).

7. On March 27, 1982, when Dr. Smith examined Mr. Doe, he determined that the plaintiff's speech and thoughts were impaired to the extent that he was having difficulties expressing himself (Smith dep., p. 47, lines 19-48, 9).

8. Mr. Doe was seen for treatment on March 27, 28, 29 and 31, and received adjustments to his spine on each of those days (Smith dep., p. 55, lines 21-23; p. 46, lines 5-7).

9. Mr. Doe's condition worsened from March 27 to March 31 (Smith dep., p. 57, lines 21-25).

10. Dr. Smith contends that he told Mr. Doe on March 27, 28, 29 and 31, that he should consult a medical doctor because of his difficulty in communication (Smith dep., p. 47, lines 7–10; p. 48, lines 12–15; p. 54, lines 19–20).

11. Dr. Smith felt that, despite his alleged medical referral, Mr. Doe's difficulty in thought and speech, which he appreciated on March 27, "might be" related to the spinal pressure points that he was adjusting (Smith dep., p. 55, lines 8–10).

12. Dr. Smith did not refer Mr. Doe out to a medical doctor when he first evaluated him for complaints of headaches, light-headedness, back pain and fatigue because he determined that the symptoms were attributable to spinal subluxations (Smith dep., p. 70, line 19–p. 71, line 20).

13. Dr. Smith never received training "specifically to refer our patients to medical doctors" (Smith dep., p. 68, line 18–p. 69, line 16).

14. Dr. Smith cannot recall any discussions with Mr. Doe suggesting that he get a medical consultation prior to March 27, 1982 (Smith dep., p. 47, lines 11–18).

15. Mr. Doe's response to Dr. Smith's suggestion of a medical consultation during the period of March 27 to March 31, 1982, was that he was "reticent about going to anyone else," and that he felt he should wait and "see how he gets along" (Smith dep., p. 48, line 10–p. 49, line 79; p. 54, lines 3–14).

16. Dr. Smith cannot recall if Mr. Doe had symptoms of impaired thought or speech prior to March 27, but assumes that there could not have been any "dramatic" symptoms or they would be written down (Smith dep., p. 50, lines 1–11; p. 51, line 4–p. 52, line 13).

17. Paul White, M.D., took a history from Mr. Doe on April 8, 1982, at Swedish Hospital, of fever, chills, night sweats, a fifteen pound weight loss over two prior months, and increase of headaches over the two months prior to that time (White dep., p. 10, lines 1–10; English Hospital records).

18. Dr. Jones, a neurologist who saw Mr. Doe on April 3, 1982, determined that he had had a history of feeling ill for the prior two or three months, a problem with headaches for two previous months, that he dragged his right leg when he walked, and had slight asymmetrical reflexes (Jones dep., p. 8, line 21–p. 11, line 250).

19. Dr. Smith does not have any independent memory of whether or not the headaches got worse during February and March of 1982 (Smith dep., p. 65, line 19–p. 66, line 14).

20. Dr. Smith does not have any independent memory of whether or not Mr. Doe was having any problems with fever during his course of treatment (Smith dep., p. 67, lines 11–16).

21. Dr. Smith has no idea of whether or not Mr. Doe lost weight during the course of his treatment (Smith dep., p. 67, lines 2–10).

22. Mr. Doe weighed in at 137½ pounds when he first saw Dr. Brown, and 120 pounds when he checked into English Hospital on April 7, 1982 (see office and medical records).

23. Dr. Smith cannot recall if Mr. Doe's complaints of light-headedness and fatigue continued after his initial examination of Mr. Doe (Smith dep., p. 64, line 23–p. 65, line 18).

24. The sooner Mr. Doe's condition was diagnosed and treated, the less his chances would have been of having an embolism to the brain (White dep., p. 35, lines 4–6; Rains dep., p. 25, line 24–p. 36, line 2).

25. Mr. Doe suffered permanent brain damage from an embolism secondary to his advanced bacterial endocarditis (Smith dep., p. 33, line 2–p. 35, line 9).

26. Bacterial endocarditis such as Mr. Doe had in this case could have been diagnosed substantially earlier than it was by a medical doctor on the basis of laboratory and blood chemistry tests, which are simple, low cost procedures that involve no significant risks to the patient (White affidavit, p. 2, lines 1–16).

27. Dr. Smith contends that the brochures used in his office are to help him educate his patients on chiropractic and that they help him answer their questions (Smith dep., p. 33, lines 5–10).

28. Jane Doe, a chiropractic assistant at Dr. Smith's office while Mr. Doe was a patient, admitted that their patients were told that chiropractic may "benefit" various diseases, including arthritis, asthma, high blood pressure, kidney trouble, liver trouble, ulcers, and many others (Doe dep., p. 28, line 5–p. 30, line 18).

29. Dr. Smith has told patients that chiropractic has restored hearing in a deaf patient and improved eyesight in a person with visual impairment (Smith dep., p. 81, line 3–p. 82, line 6).

30. Dr. Smith did not have any other significant discussions with Mr. Doe about his status other than what he previously described in his deposition (Smith dep., p. 87, lines 13–17).

31. Mr. Doe read or skimmed through all but six of the 45 brochures which Dr. Smith had in his office and relied on them in believing that Dr. Smith could help him (Doe dep., p. 73, lines 3–22).

III. STATUTES

4.24.290. Action for damages based on professional negligence of hospital or members of healing arts—Standard of proof—Evidence—Exception

In any civil action for damages based on professional negligence against a hospital which is licensed by the state of Washington or against the personnel of any such hospital, or against a member of the healing arts including, but not limited to, a physician licensed under chapter 18.71 RCW, an osteopathic physician licensed under chapter 18.57 RCW, a chiropractor licensed under chapter 18.25 RCW, a dentist licensed under chapter 18.32 RCW, a podiatrist licensed under chapter 18.22 RCW, or a nurse licensed under chapters 18.78 or 18.88 RCW, the plaintiff in order to prevail shall be required to prove by a preponderance of the evidence that the defendant or defendants failed to exercise that degree of skill, care and learning possessed by other persons in the same profession and that as a proximate result of such failure the plaintiff suffered damages, but in no event shall the provisions of this section apply to an action based on the failure to obtain the informed consent of a patient.

7.70.020. Definitions.

As used in this chapter "health care provider" means either:

(1) A person licensed by this state to provide health care or related services, including, but not limited to, a physician, osteopathic physician, dentist, nurse, optometrist, podiatrist, chiropractor, physi-

cal therapist, psychologist, pharmacist, optician, physician's assistant, osteopathic physician's assistant, nurse practitioner, or physician's trained mobile intensive care paramedic, including, in the event such person is deceased, his estate or personal representative.

* * *

7.70.030. Propositions required to be established—Burden of proof.

No award shall be made in any action or arbitration for damages for injury occurring as the result of health care which is provided after June 25, 1976, unless the plaintiff establishes one or more of the following propositions:

(1) That injury resulted from the failure of a health care provider to follow the accepted standard of care;

(2) That a health care provider promised the patient or his representative that the injury suffered would not occur;

(3) That injury resulted from health care to which the patient or his representative did not consent. Unless otherwise provided in this chapter, the plaintiff shall have the burden of proving each fact essential to an award by a preponderance of the evidence.

7.70.040. Necessary elements of proof that injury resulted from failure to follow accepted standard of care.

The following shall be necessary elements of proof that injury resulted from the failure of the health care provider to follow the accepted standard of care:

(1) The health care provider failed to exercise that degree of care, skill, and learning expected of a reasonably prudent health care provider in the profession or class to which he belongs, in the State of Washington, acting in the same or similar circumstances;

(2) Such failure was a proximate cause of the injury complained of.

7.70.050 Failure to secure informed consent—Necessary elements of proof—Emergency situations.

(1) The following shall be necessary elements of proof that injury resulted from health care in a civil negligence case or arbitration involving the issue of the alleged breach of the duty to secure an informed consent by a patient or his representatives against a health care provider.

(a) That the health care provider failed to inform the patient of a material fact or facts relating to the treatment;

(b) That the patient consented to the treatment without being aware of or fully informed of such material fact or facts;

(c) That a reasonably prudent patient under similar circumstances would not have consented to the treatment if informed of such material fact or facts;

(d) That the treatment in question proximately caused injury to the patient.

(2) Under the provisions of this section a fact is defined as or considered to be a material fact, if a reasonably prudent person in the position of the patient or his

representative would attach significance to it deciding whether or not to submit to the proposed treatment.

(3) Material facts under the provisions of this section which must be established by expert testimony shall be either:

- (a) The nature and character of the treatment proposed and administered;
- (b) The anticipated result of the treatment proposed and administered;
- (c) The recognized possible alternative forms of treatment; or
- (d) The recognized serious possible risks, complications, and anticipated benefits involved in the treatment administered and in recognized possible alternative forms of treatment, including nontreatment.

(4) If a recognized health care emergency exists and the patient is not legally competent to give an informed consent and/or a person legally authorized to consent on behalf of the patient is not readily available, his consent to required treatment will be implied.

IV. LEGAL ARGUMENT

A. *The Defendant Should be Held to the Medical Standard of Care Under Restatement 299A, Sec. (d) Because of the Way He Held Himself Out to the Public.*

Plaintiff contends that there is a substantial line of authority in this state that a professional person will be held to the appropriate standard of conduct of his reasonably competent peers unless he holds himself out as having greater skill or expertise, in which case he is held to the higher standard of care consistent with his representations. Restatement of Torts, Second, 299A, Sec. (d); *Atkins vs. Clein*, 3 Wn. 2d 168, 104, p. 2d 489 (1940); *Walker v. Bangs & Castle*, 92 Wn. 2d 854, 601 p. 2d. 1279 (1979).

Although the defendant's statements to his patients and his informational brochures clearly hold Dr. Smith out as being able to diagnose and treat disease, the defense contends that Dr. Smith can avoid the consequences of holding himself out as having this ability by invoking the language of RCW 7.70.40, which requires proof in a malpractice case that he failed to exercise the skill of a chiropractor "*in the profession or class to which he belongs*." The defense reads the quoted language as being synonymous with the class of persons who hold the same type of license that Dr. Smith holds. The plaintiff contends that a professional person "belongs" to the class that corresponds with the skill and ability they claim to have. Absent some strong showing by the defendant that the legislature meant to overturn the longstanding rule of law covered by the Restatement 299A, Sec. (d), RCW 7.70.40 should not be interpreted so as to eliminate such an important tenet from our law of professional responsibility. Certainly the legislature did not intend to allow a health care provider to compete with better trained specialists for patients by the use of questionable advertising and then take refuge in his lack of training to avoid responsibility for the consequences. Had the legislature meant to accomplish such a result, they could well have used the phrase "class in which he is licensed."

Mr. Doe has testified that he read or skimmed through almost all of the brochures in question, and that he relied on them in believing that Dr. Smith could help him (Doe dep., p. 73, lines 3-22; Doe affidavit, p. 1, lines 27-31-p. 2, lines 1-8). There is no evidence disputing this assertion. In fact, both Dr. Smith and his chiropractic assistant indicate that that was the purpose for which the brochures were distributed (see

quote at p. 16, *infra*). It would now be unfair to allow the defendant to retreat from these statements regarding the broad scope and effectiveness of his treatment and contend that, under the circumstances, he cannot be held to anything but the chiropractic standard based on RCW 7.70.40. The defendant should be precluded from such an argument on the theory of estoppel.

The doctrine of equitable estoppel has often been used by our courts where a party seeks to act contrary to his earlier acts or statements in a way that would cause injury to another party if a repudiation of the earlier position was allowed (*Liebergessel v. Evens*, 93 Wn. 2d 881, 613 p. 2d 1170 (1980)). The courts have been particularly anxious to apply the doctrine, as in this case, where there is a fiduciary relationship between the parties (*Liebergessel, supra*, at 889).

B. *Invocation of the Medical Standard is an issue of Law.*

The question of whether or not the representations to Dr. Smith's patients, contained in the brochures, are conduct sufficient to invoke application of the medical standard of care is a question of law because it involves application of agreed facts to specific statutory language. No affidavit from a fellow chiropractor condoning such conduct can create an issue of fact because RCW 18.25.045 and 18.71.10, when read together, make such conduct clearly outside the scope of the chiropractic license.

Plaintiff concedes, for purposes of this motion, that many chiropractors in the State of Washington and around the country would be anxious to testify that treating disease is within the appropriate scope of chiropractic. In fact, in a 1963 poll by the National Chiropractic Association, quoted in a 1969 report to Congress by HEW, and entitled "Independent Practitioners in Medicare," it was found that a great many chiropractors were in fact treating serious illnesses as follows:

Disease	Percentage of chiropractors treating
High blood pressure	93
Ulcers	76
Chronic heart condition	70
Polio	47
Diabetes mellitus	46
Rheumatic fever	37
Hepatitis	32
Acute heart condition	31
Cerebral hemorrhage	18
Fractures	9
Leukemia	8
Cancer	7

Defendant is bound by the language of the statutes and cannot expand the scope of chiropractic just because many other chiropractors are also improperly holding themselves out to the public.

C. *Courts of Other Jurisdictions Have Judged Chiropractors by the Medical Standard Where They Have Exceeded the Proper Bounds of Chiropractic.*

Courts have not hesitated to hold a chiropractor to the standard of a medical doctor if his treatments constitute the practice of medicine. In *Correll v. Goodfellow*, 255 Ia. 1237, 125 N.W. 2d 745 (1964), the court considered a case of a chiropractor who used an ultrasonic machine on a diabetic patient who had

a sprained ankle, causing a burn. The court reversed the trial court's directed verdict for the defendant, holding that the use of the ultrasonic machine was practicing medicine.

The general rule is that one sued for malpractice is entitled to have his treatment tested by the rules and principles of the school of medicine to which he belongs, not those of some other school. If he treats the patient with the ordinary skill and care of those of his school he is not answerable for poor results.

But this rule is not applicable here. Plaintiff does not charge defendant with malpractice in treating her back ailment by "adjustment by hand" or "other incidental adjustments." Her complaint is defendant was negligent when he went outside the practice of chiropractic and entered the field of the practice of medicine by administering ultrasonic treatments. In doing so—and it is admitted he treated plaintiff with an ultrasonic unit—he is held to the care and skill usually exercised by medical doctors (*Correll v. Goodfellow, supra*, at 749. Citation omitted).

When a chiropractor holds himself out to the public as capable of diagnosing disease, the courts have been just as apt to hold him to the medical standard of care.

In *Dowell v. Morsberg*, 226 Ore. 173, 355 P. 2d 624 (1960), the court considered a case where a chiropractor failed to diagnose diabetes in a patient he treated for about two years. Two years later she saw a medical doctor who diagnosed the disease and contended that the two-year delay in diagnosis caused the plaintiff permanent injury. The defendant chiropractor advertised what he called "The Basic Health Center" in his radio advertisements. The staff of the chiropractor's center were called "interns," "trainees," and "nurses." The defendant, who supervised the clinic, testified that he spent much of his time diagnosing patients. The Supreme Court sustained the trial court's admission of the testimony of medical doctors on the standards for diagnosing diabetes, holding that this case fell within the exception to the general rule of the defendant's representations to his patients.

The reason for the general rule which excludes the opinion of an expert in one branch of the healing arts as evidence of the standard of practice to be applied to a member of another profession is that such testimony is irrelevant. Before a defendant can be held liable for malpractice the plaintiff must show that the defendant failed to exercise that degree of skill and care which an ordinary practitioner in the same line of practice in the community would have exercised. It goes without saying that a healer who holds himself out to the public as possessed of a limited variety of science or skill should not be held, in a malpractice case, to a degree of science or skill which he has never claimed.

Obviously, if a practitioner holds himself out as a diagnostician and undertakes to examine all sufferers who present themselves, he is in competition with those who are licensed and recognized as competent to diagnose and treat a wide variety of human ailments. When the practitioner so undertakes, he must exercise the same degree of care and skill as those with whom he seeks to compete. There was ample evidence to support a finding that the defendant held himself out as a general diagnostician (*Dowell v. Morsberg, supra*, at 630).

Some courts have simply held that where chiropractic undertakes to diagnose and treat disease, that in itself is the essence of and constitutes the practice of medicine. In *Kuechler v. Volgmann*, 180 Wis. 238, 192 N.W. 1015 (1923), it was alleged that a chiropractor "held himself out to the public as capable of treating persons afflicted with disease and bodily ailments, and holding out, representing and advertising to relieve and cure persons so afflicted without the use of medicine or drugs. . . ." (at page 1016). The plaintiff presented himself with symptoms of nervousness and headache, and was treated for a period of about seven months. The symptoms worsened until at the end the plaintiff was suffering from dizziness, bad headaches and occasional blindness. He then was seen by a medical doctor who diagnosed a brain tumor.

The State of Wisconsin, at the time, allowed chiropractors to practice without a license, but required that they could not practice medicine without a license, and also provided that they would not be exempt from the law of malpractice if they failed to exercise reasonable care in treating patients. The Wisconsin Supreme Court in *Kuechler* focused on the fact that regardless of the chiropractic terminology used, the defendant was holding himself out as being able to diagnose and treat disease and equaled practicing medicine.

And the fact that chiropractors abstain from the use of words like “diagnosis,” “treatment,” or “disease” is immaterial. What they hold themselves out to do and what they do is to treat disease, and the substitution of words like “analysis,” “palpation,” and “adjustment” does not change the nature of their act *Commonwealth v. Zimmerman*, 221 Mass. 184., and cases cited on page 189 N.E. 893, Ann. Case 1916A, 858. Hence when the defendant assumed to perform that duty he must exercise the care and skill in so doing that is usually exercised by a recognized school of the medical profession. *Kuechler, supra*, at 1017–1018

Michigan courts follow a similar rule (*Janssen v. Mulder*, 232 Mich. 183, 205 N.W. 159 (1925)). In that case, the court was faced with the familiar chiropractic line that the defendant did not treat disease as such, but merely treated subluxations which allowed the body to heal itself as a secondary result. The defendant himself testified as follows at trial:

Q. And your theory is that by taking a pressure off of the nerve it will generate enough nerve supply to heal any injured or affected part of the body or overcome any disease?

A. We don't claim any and every. We do not claim to cure. We adjust the cause, remove it, and the result follows.

Q. Is it part of your theory that by removing a nerve pressure you can overcome any infectious communicable disease?

A. Our contention is that, when nerve pressure is relieved, nature will take care of the rest (at page 160).

* * *

Q. Diagnose the condition by the examination of the spine?

A. We do not diagnose.

Q. You examine the spine, don't you?

A. I palpate the spine to find any abnormalities.

Q. You examine it, don't you, with your eyes and with your fingers?

A. Yes.

Q. You form an opinion of what is wrong?

A. Of where the trouble lies.

Q. Then you proceed to treat it?

A. Adjust it; yes, sir.

Q. And that is what you did in this case?

A. Yes, sir (at page 161).

Despite the defendant's denial that he treated disease, the court looked at the reality of the situation and held that the defendant had reasonably implied to his patients that he had the ability to diagnose diseases and should legally be held to the medical standard despite his lack of medical training.

The defendant maintained an office to which people were invited to come for the relief of human ailments. He admits that there were certain of such ailments which he did not profess to treat. It would seem to follow that he represented and held himself out to the public as possessing the necessary knowledge and skill to determine whether the ailment of the person brought to him was such an [sic] one as his treatment would probably relieve. If, as he testified, the class of practitioners to which he belongs does not assume to treat infectious, communicable diseases, they may not be relieved of civil responsibility if they neglect to exercise reasonable care and skill to ascertain whether the person seeking their services is so afflicted.

* * *

While he insists that he and others of his school of practice do not diagnose cases or treat diseases, and says that he knows nothing about germs, or the symptoms of tonsilitis, quinsy, or diphtheria, he does assume to relieve pain and suffering. The words used by him in defining that which he does, such as "palpate" and "adjust," do not change the nature of the act he assumes to perform. The purpose of the mother in bringing her child to him was to secure relief to her from the fever and sore throat from which she was then suffering. When he undertook to administer treatment to her, he assumed the responsibility of determining whether the treatment he proposed to administer, and afterwards did administer, was such as might reasonably have been expected to afford relief (at page 162).

These, and other cases, are in accord with our own case of *Kelly v. Carroll*, 36 Wn. 2d 482, 219 P.2d 79 (1950), quoted in plaintiff's first brief in support of this motion.

D. The Defendant Failed to Obtain an Informed Consent to Treatment.

Chiropractors have a duty, as health care providers, to allow a patient to exercise an informed consent to treatment being recommended. RCW 7.70.050 and RCW 4.24.290, which provide for specific exemptions from professional liability claims against health care providers, specifically do not apply to informed consent cases.

Our courts have specifically indicated that a chiropractor has a duty to refer a patient to a medical doctor when a medical mode of treatment is indicated. *Mostrom v. Pettibon*, 25 Wn. App. 158, 607 P. 2d 864 (1980). The court in *Mostrom* went on to say that liability may still be found for failure to discharge the duty to properly inform the patient even if the treatment actually given was otherwise within the scope of the chiropractic licensing statute (*Mostrom, supra*, at 163-164).

The duty to give an informed consent is a fiduciary duty. *Millar v. Kennedy*, II Wn. App. 272, 522 P.2d 852 (1974), affirmed 85 Wn. 2d 151, 530 P. 2d 334 (1975). This duty required that Dr. Smith exercise the highest degree of care during the entire course of the chiropractor-patient relationship. The obligation is, by its nature, one-sided and does not require Mr. Doe to have sought information.

The defendant contends that he made his warning to Mr. Doe as soon as he first noticed any serious symptoms on March 27, 1982. That position avoids the real question. The duty to give a patient the

information necessary to make an informed consent to treatment arises at the beginning, not the end of the relationship. The facts of this case accentuate the need for early cautionary warnings.

Dr. Smith managed this case in such a way as to create for himself a greater than normal duty to make the appropriate informed consent warnings to his patient. The more consistent the patient's symptoms are with a possible medical problem that should properly be treated by a physician, the greater risk the chiropractor takes by assuming the problem is attributable to subluxations and treating the case without a medical consultation. The longer a chiropractor persists with his mode of treatment in the face of symptoms that are not improving or are getting worse, the more clear he must make the medical alternatives and attendant risks. When a chiropractor distributes informational brochures which may tend to confuse or mislead a patient, he has created a situation in which the patient is so brainwashed that even a normally adequate oral warning might well be inadequate.

In the case at bar, there is a strong indication that Mr. Doe was brainwashed. Under Dr. Smith's version of the facts, when Mr. Doe was so ill he could not speak or think clearly, he was still willing to see what could be accomplished by the ongoing series of spinal adjustments he was getting up to and including March 31 (Smith dep., p. 48, lines 12-18).

Dr. Smith in his present state of mind, is not very likely to ever give a patient an informed consent. He really believes chiropractic can cure almost any illness, and he really feels that medical doctors are unable to treat disease effectively because of their ignorance of the spine. It would seem inappropriate to Dr. Smith, in anything but the most extreme situation, to advise that a medical consultation should be obtained and that there might be health risks if a chiropractor sought to treat what was a medical problem.

Plaintiff contends that an adequate informed consent warning under the facts of this case should cover at least the following items:

1. Chiropractors may not properly diagnose or treat diseases, and should obtain consultation from a medical doctor when a patient's symptoms are consistent with a serious illness and do not properly respond to chiropractic treatment.

2. Symptoms of headache, back pain, light-headedness, fatigue, and loss of sleep are symptoms that may be caused by spinal subluxations, but they may also be indicators of an illness that is properly within the field of a medical doctor. Under the facts of this case, Mr. Doe should have been told after a period of 60 to 90 days that his progress needed to be monitored by a physician to rule out the fact that his symptoms might be caused by a medical problem.

3. If a chiropractor does elect to continue treating symptoms such as those described above, and where the symptoms persist despite treatment, the chiropractor owes the patient an ongoing duty to continue making clear to the patient the limits of chiropractic treatment and the potential dangers to the patient of failing to get medical treatment where the symptoms may turn out to be from a nonchiropractic cause or are not resolved by chiropractic treatment (see affidavit of James Jones, D.C.).

The law of informed consent requires full disclosure right from the outset of a chiropractor-patient relationship.

1. The duty of the health care provider is to inform the patient of "all the information necessary for the patient to make a knowledgeable decision regarding his medical care . . ." (*Miller v. Kennedy*, 11 Wn. App. 272, 522 P. 2d (1974), affirmed 85 Wn. 2d 151, 530 P. 2d 334 (1975); see also *Keagan v. Holy Family Hospital*, 95 Wn. 2d 306, P. 2d (1980), at 313).

2. In non-emergency situations, “the physician’s duty of disclosure arises . . . whenever the doctor becomes aware of an abnormality which may indicate risk or danger” (*Gates v. Jensen*, 92 Wn. 2d 246, 595 P. 2d 919 (1979), at p. 251, cited with approval in *Keogan*, *supra*, at p. 314).
3. The patient’s right to know is not confined to the choice of treatment once a disease is present and has been conclusively diagnosed. Important decisions must frequently be made in many nontreatment situations in which medical care is given, including procedures leading to a diagnosis, as in this case. These decisions must all be taken with the full knowledge and participation of the patient (*Gates*, *supra*, at 250, cited with approval in *Keogan*, *supra*, at 315).
4. The fiduciary duty to disclose is such that “treatment encompasses all aspects of patient care, including the doctor’s resolve to do nothing about medical abnormalities in the patient’s condition” (*Keogan*, *supra*, at 319).
5. There is an absolute duty to disclose even if the standard of care of reasonably prudent health care providers in the State of Washington is such that they would not necessarily make such a disclosure (*Miller*, *supra*, Wn. App. 272, 288 at 11. See also *Keogan*, *supra*, p. 318).

In the *Keogan* case, the court considered a case where a physician erroneously diagnosed a heart condition as an ulcer and failed to tell the patient that his symptoms were also consistent with a heart condition which could have been diagnosed with the use of certain tests. The court in *Keogan* found one of the defendant physicians negligent as a matter of law for his uncontroverted failure to inform the plaintiff of the alternative diagnostic procedures (*Keogan*, *supra*, at 321).

In the case at bar, Dr. Smith concedes that there was never a discussion of a medical referral prior to March 27, 1982. Dr. Smith has no detailed recollection of his alleged suggestion that Mr. Doe see a physician, except that “it had come up about *maybe* seeing an M.D.” (Smith dep., p. 47, lines 9–10. Emphasis added). He says he felt Mr. Doe “was impaired enough that I felt he should have a consultation, *possibly*, with a medical doctor” (Smith dep., p. 48, lines 8–9. Emphasis added). Dr. Smith sums up his recommendation and Mr. Doe’s reticence to see anyone else as follows:

It was either on that day or the next day when Mr. Doe came in on the 28th, and his speech and thought were impaired. And I am quite sure when we were discussing that that I felt that he probably should see someone. But he felt, to the effect now, and I can’t quote, that we should probably see how he gets along (*Smith* dep., p. 48, lines 12–18. Emphasis added.).

Dr. Smith’s late suggestion regarding a medical consultation is not adequate and must be viewed in light of the entire relationship. For months Mr. Doe had been indoctrinated with false and misleading propaganda that chiropractors could diagnose and treat illness effectively by removing nerve pressure in the spine. He had been told that it would take a long time for him to “get well” since his spine had been out of adjustment so long. There were many subtle ways in which Dr. Smith’s office consciously or unconsciously attempted to blur the distinction between a chiropractor and a physician, apart from the brochures mentioned previously.

It is evident from his deposition that Dr. Smith thinks and speaks of himself as a doctor, differing from a physician primarily in his approach to analyzing the cause of disease:

Q. Okay. Did you tell him that you felt that your treatment of his subluxations would either improve or take care of these problems that he was complaining about?

A. Well, *any doctor*, all we can do is indicate that we feel that the findings are relative to the kind of problem he has, and that we can—we would initiate care, but we can't you know, guarantee. . . . (*Smith dep.*, p. 29, lines 18–25. Emphasis added.)

* * *

Q. Do you feel there may have been some brain involvement or brain tumor or something in that degree of seriousness?

A. I can't make any judgment on that. I just felt that he should see someone else, another doctor. (*Smith dep.*, p. 53, lines 21–25. Emphasis added.)

The distinction was further clouded in the patient's mind by the fact that Dr. Smith was doing medical tests—which his own office records designate as “orthopedic” tests and “neurologic” tests.

Even defense counsel refers to Dr. Smith's records as “medical records:”

34. Has plaintiff or anyone acting on plaintiff's behalf reviewed the *medical records* maintained by Dr. Smith with respect to the treatment rendered to the plaintiff? (Defendant's Interrogatory #34 herein, dated 10/9/82. Emphasis added.)

This court should rule as a matter of law that no informed consent was obtained in this case, and the suggestion by Dr. Smith that Mr. Doe “possibly” see a doctor after he could not speak is not nearly sufficient under the test of *Keogan, supra*, and *Miller, supra*. The referral, if that is what it was, did not discuss any of the risks inherent in waiting to see how his condition responded to the spinal manipulations that were being done on a daily basis. The suggestion of a referral on March 27, 1982, was too little too late.

The content of the brochures in this case is absolutely incompatible with the fiduciary duty to give a patient an informed consent. WAC 113.12.150 prohibits the use of false, deceptive or misleading advertising by chiropractors. The regulations also prohibit chiropractors from claiming professional superiority or failing to differentiate chiropractic from other types of practice.

Instead of advising of the usefulness of medical consultations to identify nonchiropractic problems, Dr. Smith's brochures belittle physicians for their ignorance in failing to understand the true cause of disease.

Diabetes Mellitus—Despite this very apparent fact, however, the physician has steadily clung to the idea of eliminating the sugar of the urine by keeping it out of the foods given. He seems to lose sight of the fact that the sugar is in the urine, not because it is present in the foods, but rather because the bodily organs fail to utilize it in the living tissue.

Instead of warning that some headaches may be caused by problems other than subluxations and may therefore require medical attention, Dr. Smith's brochures go so far as to suggest that what appear to be other illnesses often turn out to be pinched nerves! Because of his expertise, a chiropractor is recommended as the diagnostician of choice—a specialist!

Common Headache—a misaligned spinal vertebra can cause disease in any part of the body. . . . Pinched nerves are deceiving since they can appear to be almost any illness. A specialist with skill and experience in dealing with the nerve system is the Doctor of Chiropractic.

Instead of warning that some symptoms and illnesses may best be treated by medications and tests administered by physicians, Dr. Brown's brochures belittle certain medical tests and drugs as being ineffective or potentially harmful.

Allergy—That's why ordinary examinations such as scratch tests, patch tests, intranasal tests, trial-and-elimination tests and escalator diets seldom lead to treatments that produce cures. At best they can afford some relief if the sufferer can lead a restricted life and manage to avoid the substance that attacks his particular weakness. And one of the ironic and contradictory aspects is that many drugs that are supposed to produce cures are allergens themselves, which your body must struggle to combat.

The only real cure for allergy is to get rid of the weakness—to strengthen the body's natural defenses by restoring the ability of the nerve impulses to keep the body functioning normally.

WHO CAN HELP ME?

Chiropractic has been the answer for thousands of people who did not give up hope of being cured of their allergies. . . of living normal, healthy, unrestricted lives. In a nationwide study, an amazing 97.5 percent of patients with allergies were helped by chiropractic, and 56.4 percent were completely well. The average time the patients were under chiropractic care was 140 days.

Instead of discussing medicine as an alternative to treatment—at least a respectable minority view of treatment—mothers are urged to consult their chiropractor as a primary health care provider for all kinds of illnesses including fever.

Children & Chiropractic—DON'T JUST TREAT "SYMPTOMS" Find the cause. . . . Here are some of the most common disorders in children which chiropractors have found are frequently caused by pinched nerves:

- Poor posture
- Nervousness
- Indigestion
- Fever
- Colic
- Croup
- Constipation
- Bed wetting
- Weakness
- Stomach-ache
- Loss of hearing
- Irritability
- Headache
- Sore throat
- "Growing Pains"
- Earache
- Eye problems
- Cough
- Rash
- Asthma
- Bronchitis
- Poor coordination
- Poor concentration

Be sure to have a chiropractor check your child at the first sign of any of these problems. Delay can be dangerous.

The medical cases on informed consent all deal with facts less compelling than those of the case at bar. The physician in *Keogan* was negligent as a matter of law because of his silence. What would the court in *Keogan* have said if the patient had been subjected to six months of misleading propaganda?

Dr. Smith's statements and his literature are enough to decide this case, but plaintiff's position is further strengthened by the fact that Deborah Love, Dr. Smith's chiropractic assistant, conceded that patients in their office were in fact led to believe that chiropractic was helpful in treating disease. After being read a portion of a brochure similar to one used by Dr. Smith, she made the following observations:

Q. What does that mean?

A. What you read—To me, if I was reading that, it would tell me that chiropractic can help in some of those cases, but it is not a cure-all.

Q. Did Dr. Smith's brochures convey the same message from what you recall?

A. I—It may benefit, but it may not—it doesn't say "cure-all." No, but—

Q. Is that—

Ms. Cook: Did you finish your answer?

defense counsel

Q: Go ahead.

A. The pamphlets aren't meant to say chiropractic cures that disease. They—It's to educate the patient that it may aid—it may help.

Q. What is the purpose of these pamphlets?

A. To educate the patient on chiropractic and what it possibly can do for the patient.

Q. And did the pamphlets that Dr. Smith handed out in his office talk about some of these same diseases?

A. Yes, but not—A few of them, yes. You'll find them in most offices, yes.

Q. Okay, and when you say that chiropractic could be of help to those people, what do you mean by that?

A. Chiropractic helps—From my knowledge and education, chiropractic helps the body heal itself.

Q. So if I have high blood pressure and ask you as a chiropractic assistant whether or not chiropractic can be helpful in treating my high blood pressure, what is your answer?

Ms. Doe: I'll object to the form of the question. It lacks foundation, and it's not relevant. You may answer.

A. I would say it possibly could. I would not say it definitely would help that problem.

Q. Okay. Now, did patients while you were working at Dr. Smith's office ask you similar questions to that?

A. I believe so.

Q. And did you answer similarly?

A. Yes.

(Love dep., p. 29, line 5--p. 30, line 18).

V. CONCLUSION

The defendant's brief suggests that this motion is to allow plaintiff to prevail without a chiropractic expert witness to testify that Dr. Smith breached the chiropractic standard of care. Plaintiff has filed a supplemental answer to interrogatories naming Dr. Daniel Doe as a chiropractic expert witness on the question of Dr. Smith's negligence in failing to refer plaintiff out to a medical doctor. The court need not consider that testimony at this time, however, because the defense is in error when it contends that the alleged negligence in failing to make the referral to a medical doctor is the issue.

The issues before the court raise the following primary questions:

1. Did the representations of Dr. Smith, Peggy Doe and the brochures have the effect of holding the defendant out to Mr. Doe as being able to diagnose and treat illnesses to the extent that he should be held to the medical standard of care under the rules of Restatement 299A, Sec. (d) or the rules of estoppel?

2. Can it be said as a matter of law that Dr. Smith's failure to make any warning of alternatives or risks associated with his course of treatment, after his treatment had not resolved the patient's initial symptoms, deprived Mr. Doe of an opportunity to exercise an informed consent, when viewed in the context of the alleged misleading representations about chiropractic mentioned above?

3. Was the failure to give the plaintiff an informed consent warning probably a proximate cause of the brain damage resulting from his emboli to the brain on March 27, 1982?

Plaintiff submits that these questions should be resolved in his favor, and that both motions should be granted.

DATED: October 30, 1982.

Respectfully submitted,

by:

Attorney for Plaintiff

Summary and discussion

The two briefs in this case are so complete and accurate in exposing significant aspects of chiropractic malpractice that the author will add only a few remarks.

Throughout the depositions the defendant and his supporting witnesses attempted to hide behind the tired argument that chiropractors are not responsible for the detection of diseases outside their scope of

practice. Further, the defendant maintained that he did not receive training to refer patients to medical physicians. This is, of course, false. All chiropractic colleges teach the basic responsibilities of the chiropractor as a primary health care provider, including referral when indicated. Nor is there a basis in any state for the argument that a preliminary diagnosis is not the responsibility of the treating chiropractor. (The author did advise the plaintiff's counsel, however, that a chiropractic expert would be needed to establish the scope of practice and the standards in this state.)

Dr. Smith offered two chiropractic witnesses who stated that the brochures were intended only as guides to particular conditions and not as an advertisement that chiropractors could cure these conditions. This is an evasion of the professed purpose of the brochures and in the author's opinion would be very difficult to support at trial. The defendant's records were sufficient for the spinal complaints offered, but they did not indicate a proper examination of the heart or lungs, the organs that caused the patient's suffering. The X-rays were sufficient for a spinal problem, but did not include any chest or cardiac studies.

The defendant also maintained that he told Mr. Doe to seek outside medical care, but the evidence showed that he dissuaded the patient from doing so by continually assuring him that things would get better, but that it would take time. Dr. Smith presented a promise of cure by assuring the patient as treatment progressed that his condition would be resolved. In addition, the evidence showed that the defendant did not offer Mr. Doe any alternative modes of care.

The plaintiff's argument was that the chiropractor was attempting to practice medicine and therefore placed himself under the standard of conduct required of a medical doctor. Also, the plaintiff contended that Dr. Smith should have referred him, as he was unqualified to perform a proper cardiac evaluation. The brochures are, in the author's opinion, a significant point for the plaintiff's argument. His opinion regarding the pamphlets was presented as follows:

I have reviewed and read approximately thirty pamphlets describing various conditions curable by chiropractic manipulations. These conditions include sciatica, spine and shoulder pain, prostate problems, heart problems, diabetes, female problems, foot problems, arthritis, high blood pressure, stomach problems, allergies, and gall stones.

The only conditions which have been scientifically proven to respond to chiropractic care are structural back pain and arm and leg pain in the absence of organic disease or nerve degeneration. The remainder of the conditions described have not been proven scientifically to respond to chiropractic manipulation and they represent an unproven theory which admittedly is supported and propounded by a segment of the chiropractic profession. This segment of the profession has not yet accepted the reality that though many symptoms may temporarily change under any form of therapy, spinal adjustments as therapy for these conditions has not received one iota of scientific support.

The plaintiff maintained that he was seduced into enduring this treatment for more than six months, and that he had consented to treatment without full facts of his condition. Medical testimony was of the opinion that medical care, in the form of drug therapy, would have helped the plaintiff recover more rapidly and would have avoided many of the long-term deleterious effects of the untreated bacterial infection that spread to the brain.

Here is an individual who was persuaded to continue a treatment regime without improving within a reasonable interval, which according to chiropractic standards would have been 30 days for the symptoms presented. The brochures distributed by the defendant were false advertising. Chiropractic liberals and conservatives vehemently disagree about what the profession can and cannot treat. Liberals maintain that heart examinations are within chiropractic's scope and that their care is efficacious for these conditions. Conservatives assert that the chiropractor's duty is strictly removal of spinal subluxations; and that

Mr. Doe should have been referred for consultation. For this case, the majority opinion among chiropractors who are taught to watch for signs indicating the need for medical care would be that the treatment was negligent and that the patient should have been referred much sooner than he allegedly was. This case also illustrates the powerful influence a practitioner, in his clinical setting, can have in persuading a patient to blindly follow a treatment regimen on faith, for months, against all reason.

11. Surgery for Torn Meniscus Following Chiropractic Manipulation of the Knee

Gladys Jones, a 42-year-old waitress with a history of lower-back, right-leg and right-knee pain for several months; consulted a chiropractor who issued a diagnosis of "severe cervical lumbar spinal strain with nerve root pressure at 1 and 2 cervical and 4 and 5 lumbar." His clinical records show only an examination of neck-region motion and a straight leg-raising test for the lower back. Full-spine X-rays were taken, consisting of an anterior to posterior 14 × 36 view and a lateral full spine 14 × 36 view. There were no spot or regional X-rays of the lumbar spine or the right knee, which was adjusted.

Medical history

Ms. Jones's medical history revealed nothing to explain her knee pain. She consulted two medical physicians for the problem, six months after the first chiropractic examination and later that same year.

The first wanted to perform an arthrogram, but she was moving from the area. The second also recommended an arthrogram. Subsequent medical records show a diagnosis of "chronic lumbar sacral strain, probably not herniated disc" and a "recommendation of physical therapy and exercises." An EMG was later performed; it did not indicate any particular areas of nerve degeneration.

Ms. Jones received 47 chiropractic manipulations of the neck and lower back and three of the right knee over a two-year period. Under questioning from her counsel, Ms. Jones maintained that following the third knee manipulation she experienced severe right-knee and lower-leg pain and was unable to perform her regular duties as a waitress. She consulted a medical orthopedist, was later scheduled for an arthroscopy, and surgery was performed to repair a right medial meniscus. At that time her orthopedist also performed a myelogram of the lumbar spine that indicated a small extra dural defect at L-5 and S-1. The patient refused back surgery and was enrolled in a pain clinic program.

Alleged malpractice

The plaintiff's counsel in this case alleged that the chiropractor should not have manipulated the knee and also should have obtained medical and orthopedic consultations regarding the chronic lower-back problems.

Defendant's presentation of facts

The defendant maintained throughout his deposition that because he treated a large volume of patients he was unable to do a complete examination of each and that he was not responsible for Ms. Jones's overall medical care. He stated that he used "pressure on the knee to stimulate circulation" and did not perform any forceful adjustment of the joint. He had no defense for the lack of X-rays of the right knee and gave several contradictory answers indicating that he felt that the knee pain was due to "a lumbar nerve pinch."

Summary and discussion

There were at least three violations of normal chiropractic practice in this case:

1. Upon deciding to manipulate the knee, the chiropractor should have conducted a thorough examination and X-ray studies of the knee. These were not done.

2. In some states it is standard practice to seek orthopedic consultation for a knee problem before submitting the patient to forceful manipulation.
3. There was no indication anywhere in the records that the patient was informed of alternative modes of therapy for her condition.

It was the author's opinion as a consulting expert that the chiropractic manipulation was the direct cause of the final tearing or rupture of the chronically involved right medial meniscus. This case was settled in favor of the plaintiff before the author's deposition was requested.

12. Lumbar Discectomy Following a Two-Year Chiropractic Regimen

Chiropractic clinical records indicated that Rosemary Doe, a 38-year-old, obese day-care worker, received the following treatment for chronic lower-back pain:

1. A history consisting of a notation on the record sheet of "low back pain for several months, heat or home medications do not give relief."
2. A lumbar X-ray study consisting of lateral and anterior-posterior views.
3. Prescription of a phosphorous-free calcium nutritional supplement and advice to take 1500 milligrams of vitamin C per day.
4. Over a period of two years from January 19, 1975, through January 19, 1977, approximately 23 adjustments, the majority being lumbar rolls or side-posterior maneuvers. The pain persisted and during the last visit was radiating down the left leg.

Medical history and examination

Except for the chronic lower-back pain, the medical physician whom Ms. Doe consulted in February 1977 declared her in good general health. He made the following remarks regarding her spinal condition.

The patient walks with a back guarding gait, limping on the left leg in a slightly stooped forward position. There is considerable paravertebral muscle spasm and back motion shows flexion to be limited to about 50% abnormal. There are complaints of pain down the back of the left leg.

Later in his report he stated:

There is tenderness throughout the left buttock, over the sciatic nerve. There is none on the right. There is no femoral nerve tenderness. Jugular compression test is immediately positive with pain down the left leg. Straight leg raising is only tolerated to about 10 degrees and then there is pain down the back of the left leg.

He concluded:

It is obvious that Mrs. Doe has a ruptured disc, presumably at the lumbosacral level on the left side. She has severe nerve root pressure, as yet had not had anything in the way of motor or sensory damage, and I feel she is an operative candidate.

A lumbar myelogram ordered by the consulting physician revealed the following:

The lumbar puncture by Dr. Jones was performed at the L3-4 interspace following injection into the subarachnoid space. Radiographs demonstrate a large extradural defect lateralizing to the left at L4-L5. There is also an anterior component. No other extradural defects are identified with contrast run up to the level of D12.

Opinion: Extradural defect to the left at L4-L5 consistent with disc herniation.

Ms. Jones underwent a successful lumbar hemilaminectomy with removal of the herniated L4-L5 disc. The patient was returned to the ward in good condition. She did well postoperatively, her sutures were removed, she was discharged, and she had follow-up, outpatient care in approximately three to four weeks.

Summary and discussion

The author did not review any of the defendant's depositions or rebuttals in this case, but will offer an independent opinion on the factors he believes led Ms. Jones to unnecessary lumbar back surgery.

The defendant should have been alerted, considering the chronic nature of her condition, that forceful lumbar-roll adjustments would further weaken the soft tissues supporting structures of the spine. A more conservative, passive spinal rehabilitation program should have been instituted. For example, an anti-gravity device could have been used at home to help extend the compressed structures in the lower back and allow the body a chance to rebuild the area. Ms. Jones should have been advised to attend a weight-loss clinic and to involve herself in vigorous swimming and spinal-motion exercises.

The plaintiff's counsel alleged malpractice in this case, claiming that the defendant should have had the patient consult a medical physician long before the two-year chiropractic regime was complete. The author agrees, and also believes the lumbar rolls were a direct cause of the final rupture of the lumbar disc at L4-L5. Also, the prescription of vitamins and minerals for a lower-back condition in the state where this case occurred would be considered the practice of medicine. Here is another case where the patient was assured that the chiropractic adjustments would help her problem and was not given benefit of a thorough discussion of alternative modes of treatment. The defendant's records were grossly deficient; they indicated how cursory the initial examination had been, and were grossly incomplete as to what was done to the patient on each visit and how she was responding.

This case was settled in the favor of the plaintiff who was left, postoperatively, with marked lumbar restriction but with no further definite motor or sensory loss.

13. Massive Lumbar-Disc Rupture and Cortical Fracture of L5 Vertebral Body Resulting in Lumbar Nerve-Root Damage and a Sequela of Impotency

While he was unloading a truck tire, a 38-year-old tire salesman felt a "popping sensation in the middle of his low back." He consulted Dr. Johnson, a chiropractor, who treated him with six adjustments over a five-day period. The last adjustment created severe pain, and six weeks later the patient had surgery for a massive lumbar-disc rupture.

Medical history

Harry Baldrige had had minor lower-back pain eight years prior to this incident, but otherwise was a normally developed, healthy male with normal vital signs and no significant medical or surgical history. The back pain was resolved with conservative care with no apparent residuals.

Chiropractic consultation and treatment

Dr. Johnson took a fairly good history, stating on the company accident-claim form that the patient

"felt a popping sensation in his lower back with spastic type pain after swinging a heavy truck tire from a truck onto the ground." The chiropractor's clinical records, which the author has reviewed, consisted of an eight-page chiropractic, orthopedic, and neurological examination form that was mostly blank. There were some notations on the front sheet: "neurological findings negative and knee reflexes negative. Ankle reflex negative, and Babinski sign negative." Patellar and ankle reflexes were listed improperly as negative or positive, and should have been graded on a scale from zero to four relative to the muscle-tendon response. When during his deposition he was asked about recording examination findings, Dr. Johnson said, "No. I only recorded the positive." This, of course, is not proper clinical procedure, as all findings, negative or positive, are an important part of the total clinical work-up. The practitioner issued a diagnosis of "lumbo-sacral myofascial syndrome." He did not take any X-rays of the lumbar spine. The clinical notes indicate that the patient was very tense during the adjustments. On the last day when he was given what he described as a severe twisting adjustment, Mr. Baldrige was deeply concerned that something went wrong. He described the experience in his deposition:

The last visit I went into his office, laid [sic] on his table as normal, as I had done previously. This time he told me to relax. He got his hands or arms underneath my legs and up underneath my back in whatever manner, I can't explain exactly how. And he told me to relax. And then let loose a blow that if I could get down to this floor right now and explain it in words, and the screaming and hollering I experienced that particular day, the people in this office would be running. After he let go that blow to do something for me, I watched Dr. Johnson walk around that office and all I said to myself was, my God in heaven, why did he break my back! That's the only thing I could think of. The pain was so severe that no words that I could come up with could ever express or explain it.

This description indicates that the patient was given a lumbar-roll adjustment, which was not advisable with the acute symptoms following an accident of this nature. The chiropractor's records did not indicate any referral to a medical physician or evidence of consultation with any other practitioner.

Plaintiff's presentation of facts and medical opinions

Following the last visit, Mr. Baldrige consulted his general medical doctor, who made a preliminary diagnosis of lumbar-disc syndrome. He recommended that Mr. Baldrige enter the hospital for observation and further examination. The patient was in pain, but he went to Florida on a trip he had long planned. While he was there, an osteopath treated him once for what his records show was a slipping accident at the swimming pool. The osteopath used ultrasound and massage on Mr. Baldrige's lower-back region. After two days in Florida the pain became so severe that Mr. Brown returned home and checked into a hospital. A subsequent myelogram revealed a large defect at the L4-L5 area on the left. Surgery was performed on January 11, 1969, approximately five weeks following the original injury.

On being asked whether the chiropractic adjustments were the cause of the massive disc rupture, one of the plaintiff's medical consultants said that disc conditions are tremendously variable in their behavior. This, combined with the time lapse between the original injury and the operative procedure, made it very difficult to prove the adjustment was the definitive cause of the rupture. The consultant's report concluded:

I think it is quite conceivable that this type of injury could have been sustained during a maneuver of forcible flexion, [such as Mr. Baldrige describes].

In his deposition Dr. Johnson denied performing any such maneuver. It is the author's opinion that such an adjustment can cause fracture—which, as noted by Dr. Johnson, was a complicating and "worsening factor in the patient's subsequent troubles."

Medical treatment

The attending surgeon described his experience with the plaintiff in a letter to the referring general practitioner:

I want to give you a follow-up report on Mr. Baldrige, a patient whom you saw and advised to have his disc taken care of. I saw Mr. Baldrige and admitted him to the General Hospital on January 7, 1969. Myelograms performed on January 10 showed a massive disc extrusion at L5-S1 (which you had told him he had). I explored him on January 11, finding extensive rupture at L5-S1, creating an avulsion of the posterior cortex of L5 and S1, which had jammed into the nerve root of L5 superiorly and S1 distally. This required meticulous work for several hours. His response to surgery was excellent. He left the hospital on January 12, 1969, and I saw him in the office for a check-up on February 14, 1969.

In answer to a question regarding the cause of the massive disc extrusion, the surgeon responded:

I would think that it would be due to the sudden and massive extrusion of disc material which might have come out on different manipulations; I'm not sure. But certainly with this one, I would think that it would be severe enough to avulse a section of the cortex. From his description, it would be severe enough to cause a lifting or an extrusion of the mass, forcefully enough to lift up a portion of the cortex.

With regard to the cause of the impotency following the surgical procedure, the surgeon was less definite:

Q. I see. So is it fair to say that your opinion is that if he in fact is impotent, it was not caused by his ruptured disc?

A. It would be hard to say. That depends upon when his impotency occurred and whether it has improved or not. Had he had it before?

Another medical opinion, by a neurologist three years following the surgery, included positive findings that were apparently residuals from the operation. They included left-calf pain, absent left-ankle jerk, hypalgesia of the left foot, and impotency. The examiner gave his impression as follows:

Post-op L5-S1 ruptured intervertebral disc with evidence of changes in the first sacral nerve root of a permanent character. He also has evidence of post disc syndrome.

In the conclusion of the report he stated that Mr. Baldrige was able to work only four or five hours per day due to persistent lower-back pain.

Alleged malpractice

Plaintiff's counsel alleged in his claim for damages that Dr. Johnson did not perform an adequate examination or radiographic studies; and that if these procedures had been done, he would have recognized that the plaintiff had a severe, potentially disabling condition requiring immediate medical attention. It was also his contention that the final adjustment was a direct cause of the disc rupture and the resultant impotency.

Defendant's presentation of facts

Throughout the defendant's deposition he maintained that he performed the proper examinations and tests but did not record them because they were negative. When asked why he did not take X-rays, he responded that he did not see any indication from the testing that he had done that X-rays were necessary.

He claimed that he used the Spears Painless Method of adjusting, not the lumbar roll claimed by the plaintiff. His conclusions were that his diagnosis of a lower-back sprain was accurate, that the treatment he administered was proper, and that the plaintiff was incorrect in his statement that on the last visit he experienced severe pain from the adjustment.

Independent chiropractic opinion

The author was asked to evaluate all of the medical and chiropractic records and issue an opinion regarding three points: (1) If the patient had developed radiating pain during the course of treatment, would it have been appropriate for Dr. Johnson to have continued manipulation? (2) Was it appropriate for the defendant to initiate active manipulation without an X-ray examination, myelogram, or other diagnostic techniques? (3) Assuming that the plaintiff did not have radiating pain, but had felt a popping sensation in his lower back with spastic-type pain after swinging a heavy truck tire, would the positive signs listed by the defendant have indicated active manipulation as appropriate treatment? The author was asked at the trial if the impotency, as reported by the plaintiff, was related to the massive ruptured-disc and lumbar nerve-root damage. The summary of the report was as follows:

Given the history stated by Mr. Baldrige with the popping sensation in the low back, and the findings given by Dr. Johnson, active manipulation therapy would not be indicated even if a proper x-ray examination were performed. Treatment for the condition as described in the documents would be basically bed rest, immobilization, possible home pelvic bed traction, application of ice over the area to reduce swelling, and referral to a medical physician for pain medication as requested by the patient.

If one applies manipulative therapy to the low back when there is evidence of radiating pain into the lower extremities, the nerves will be increasingly irritated. If this happens following manipulative treatment, manipulation should be discontinued and the patient should be immobilized and advised to rest.

1. The medical history as presented by Mr. Baldrige to Dr. Johnson should have alerted the chiropractor that there could be serious underlying disc or nerve root involvement.
2. Routine standard chiropractic procedures would include an x-ray examination of the low back and a more thorough orthopedic workup.
3. Proper chiropractic treatment for injuries of this type during the acute phase of recovery would be bed rest, a back support to reduce spinal motion when ambulatory, optional use of home lumbar spinal traction, and the optional use of heat and cold to resolve any muscular swelling. Spinal manipulation during the acute phase would be contraindicated.
4. It is my opinion that the treatment administered to Mr. Baldrige by Dr. Johnson was responsible for the damage to the lumbar spinal discs and necessitated the ultimate surgical intervention.

Summary and discussion

There is no question in the author's mind about the cause of the disc damage: the "painless adjustment" the defendant claimed he had administered was a lumbar roll, absolutely inappropriate in a traumatic, acute condition.

In addition, the examinations were inadequate and no X-rays were taken. When a patient enters a chiropractic office in the antalgic position following a lifting incident, as described in the history, forceful rotatory adjusting is never indicated. Another point the author missed in his report was the fact that the

defendant used a "visual nerve tracer" to determine if any lumbar subluxations were present. This instrument is unscientific and was declared illegal by the FDA years ago.

The patient complained of being uncomfortable in the position he was placed in for the adjustment. This is a "red light" for the adjustor to halt his procedure and to consider more conservative treatment until the acute phase of the illness has resolved. There is no evidence in any of the records suggesting a medical consultation, which was requisite considering the evidence presented. It is the author's opinion that the impotence, lower-back stiffness, and nerve-root residuals were all related to the last chiropractic adjustment.

This case went to trial with several complications that in the author's opinion influenced the verdict for the defendant. Apparently the jury believed that Mr. Baldrige had fallen in Florida during his three-day absence from home following the last chiropractic adjustment. The patient maintained that the osteopath had lied about his case history and that he did not tell the physician that he had fallen. This discrepancy, in the author's opinion, presented a serious challenge to the jury and did not work in the plaintiff's favor. Also, during the course of long pre-trial delays, the defendant died.

14. Acute Brainstem Lesion Following Side-Posture, Toggle-Recoil Cervical Adjustment

Alice Maloney, a 29-year-old woman who had been experiencing neck stiffness for about three weeks, consulted her family physician. He prescribed muscle relaxants, checked her neck, and gave her an appointment for a follow-up visit. Records indicate that three days later she went to a chiropractor, Dr. Peterson, for a neck adjustment, and subsequently began a painful three months of hospitalization and medical treatment for a brainstem injury.

Medical history

Prior to the treatment for her stiff neck by her general physician, Ms. Maloney's medical and family histories were unremarkable, except that she had one seizure when she was one-and-a-half years of age with no recurrence.

Chiropractic consultation and treatment

Following her visit to the general medical doctor, Ms. Maloney consulted Dr. Peterson on November 25, 1973. He took X-rays of the neck region, performed neck-motion studies, and palpated her skull and neck regions. Ms. Maloney's affidavit stated that the chiropractor told her she had a vertebra out of place, and that it would require three months of care to realign it. The records indicate that he laid her on her left side and administered a toggle adjustment to her upper neck. They show that this adjustment consisted of three thrusts to the upper-cervical vertebrae.

Immediately following the third thrust, Ms. Maloney experienced sudden dizziness and severe headache. Her chiropractor became frightened and told her that this was not a normal reaction. He called his uncle, Dr. Hamilton Rogers, who was also a chiropractor, and was told to take Ms. Maloney to his uncle's office a few miles away. Dr. Peterson had to carry Ms. Maloney into his uncle's office where they both worked on her from 8:30 to 11:30 p.m., attempting to adjust the upper-neck region. Dr. Rogers also took X-rays of the neck and did a brief examination. At about 11:30, both chiropractors decided that they had an emergency medical situation on their hands, and had the patient taken by ambulance to a local hospital.

At the hospital emergency room she was examined and diagnosed as having hysteria. She was prescribed medication and was released early in the morning. Ms. Maloney did not improve the following day. She was again taken by ambulance to a larger county hospital for diagnostic studies. She was subsequently transferred to a third hospital where her prolonged medical treatment and rehabilitation took

place. She finally was discharged approximately two months later under the care of her general physician and a consulting neurologist.

Medical examination and treatment

Upon entrance to the second hospital Ms. Maloney's prior medical history was reviewed. The examining physician noted:

This morning there was again decided worsening with progressive heaviness and paralysis in the right extremities, questionable weakness of the right side of her face, marked dysphagia and development of abnormal eye movements. The blood pressure was 135/80 and other vital signs were normal.

His subsequent remarks included the following:

On examination she is a young, lethargic woman who lies in bed moaning with her head turned to the left. She is having gurgling sounds due to inability to swallow her own secretions. She is responsive to questions and commands by weakly nodding or shaking her head and by gesticulating with the left arm. She had equal pupils which react briskly to light and are approximately 5 mm in diameter. There are marked rapid nystagmoid movements of both eyes and an inability to deviate her eyes past the midline to the left on command and on following. She follows to the right wall. The optic discs are clearly outlined and she has bilateral weakness of movements of the face and I can not determine any definite asymmetry of the face at present. She has marked trismus and the mouth can be entered with the tongue blade only by forcing. She does not protrude her tongue. Accumulation of secretion in her mouth has to be suctioned. Her neck moves freely but only partial flexion of it is attempted. She does not report any tenderness now, but her weakened general condition may mask the tenderness found by Dr. Clark.

There is dense right hemiplegia with decreased tone on the right side. Tendon reflexes are absent on the right side, 1+ and present throughout on the left. The plantar response is flexor bilaterally. She perceives pinprick over both sides of the face, trunk, and limbs. She gives correct responses to position and vibratory sense everywhere except in the right lower extremity, where she seems unable to discern.

The neurologist's initial impression was:

Acute brainstem lesion, either secondary to fracture or odontoid or tumor.

In a letter to the plaintiff's counsel, Dr. Clark, the treating neurologist, related the following information regarding the treatment:

I believe you already have information as to the extremely stormy course in which she was near death over a period of some weeks until she finally rallied to the point that she was able to be transferred out of the Intensive Care Unit on 1/15/74, and then out of the hospital on 1/30/74. Thereafter I followed her as an outpatient along with Dr. Wilson until May 3, 1976. Without going into detail as to the specific physical findings, I can summarize by saying that her clinical course was consistent with severe disease involving the brainstem and the upper spinal cord, which is the area of the nervous system controlling vital functions such as maintenance of blood pressure, breathing and swallowing.

To be perfectly frank, I never established a precise diagnosis as to her condition other than there was some evidence of an inflammatory type lesion. While the information given in her initial history indicated that something had been going on prior to the onset of the acute conditions immediately pursuant to the chiropractic adjustments alluded to above, the history was consistent and precise in relating the

onset of the worsening of her condition timewise to the chiropractic adjustments. Whatever the underlying or preexisting condition, it is highly probable that the chiropractic adjustments either aggravated a preexisting condition or superimposed upon that condition a traumatic injury to the upper cervical part of the spinal cord which gave rise to precipitous development of the conditions.

In the months since her hospitalization, Ms. Maloney made gratifying improvement on continued physical therapy and due, in no small part, to her own determination and perseverance. At the time of my last examination she was having residual difficulty speaking clearly, spastic weakness of the right extremities, slight residual incoordination of the left extremities, and headaches. She was able to get about with the aid of a walking cane and was able to take care of most of her personal needs such as dressing, feeding, etc. These remaining neurological deficits will, in my opinion, be permanent. In view of the fact that I have not examined her since May 3, 1976, I would recommend that she return for a detailed examination for the purpose of assessing the degree of disturbance of function in each of these areas and an arrival at a more meaningful rating of her physical impairment than my present information would permit. I would appreciate it if you would have Ms. Maloney call my office for an appointment.

Plaintiff's presentation of facts and additional medical opinion

Ms. Maloney stated in her affidavit that immediately following the third thrust to her neck she noted "a tingling of the entire right side of her body, her head, and of her lips from the mid-line to the right side." She further stated that this alarmed her; she inquired if this were the "usual way" one should feel after such an adjustment and was told that it was not. She then recalled that she had been transported in the chiropractor's station wagon to his uncle's clinic. He then carried her into the clinic and both chiropractors worked on her neck until late that night.

The plaintiff's consulting medical expert concluded his report with the following:

In the light that there was no absolute objective finding of injury in her physical examination by Dr. Wilson and Dr. Clark, or in the subsequent studies performed, the revelation of an absolute etiology as to her neurological lesion is made somewhat more difficult. It is true that she had a stiff neck for approximately three weeks prior to the catastrophic episode which occurred in the chiropractor's office. I think that it is extremely significant that her neurological pathology abruptly occurred at the instant that she was struck on the neck by Dr. Peterson. Of course, there could be many other etiologic causes to her neurological deficit. This was taken into consideration when she was admitted to General Hospital by Dr. Johnson and a search for other such reasons was fruitless. On the other hand, it is well documented that chiropractic manipulation can produce this type [of] injury to the brainstem. A good reference is: H. R. Thomas Pratt, "Cerebellar and Spinal Injuries After Chiropractic Manipulation," *Journal of The American Medical Association* (March 1, 1947), p. 12. Below is the last paragraph of his report:

In regard to Case 3, it is well known that decided cerebral and spinal injury can occur without discernible evidence of fracture or dislocation. A temporary luxation of the vertebral column may occur which quickly returns to normal; but during the brief period of displacement, severe damage to the cord is produced.

It is therefore my opinion that this lady's injuries occurred during her chiropractic manipulation by Dr. Peterson based on the data that I have available. It is possible that either he vastly exacerbated an existing condition or he initiated her neurological deficit. But in either case, it seems highly probable that the neurological deficit began abruptly at that time.

Alleged malpractice

The plaintiff's counsel in his request for damages in part alleged the following:

1. Dr. Peterson, the first treating chiropractor, did not do a thorough X-ray examination to the neck to determine the possibility of any osseous abnormalities, and he did not perform a comprehensive, standard chiropractic work-up related to the neck region.
2. Dr. Peterson noting the symptoms following the third thrust of the adjustive maneuvers should have immediately called an ambulance and had Alice Maloney taken to a hospital for immediate medical care.

He further listed in his statement that the additional chiropractic care at Dr. Rogers's office could well have further endangered Ms. Maloney, not only from the delay in receiving proper medical treatment, but also from the increased irritation and possible trauma to the arteries and nerves in the neck.

Defendant's presentation of facts

The author did not review the defendant's deposition in this case, and so far as he knows there were no medical or chiropractic witnesses offered.

The author was asked to give his opinion during a telephone conversation, but did not give a written report. The remarks below are from his case notes.

The initial treating chiropractor did not take adequate X-rays of the neck or perform an adequate neurological orthopedic examination to determine if there were any underlying neurological problems related to the neck region.

The initial treating chiropractor, in my opinion, used excessive force when he administered the "toggle recoil" adjustment to Ms. Maloney's neck, resulting in a temporary but devastating insult to the vertebral arteries which resulted in brainstem damage.

Proper procedure, following the statement of the symptoms by the patient, would have been to have her immediately transported to a hospital emergency room and not to take her in his car to his uncle's chiropractic office for further care. I believe this delay was significant in relation to the creation of her long term neurological deficit by not allowing her the benefit of timely medical attention.

Summary and discussion

This case illustrates the extreme danger involved in manipulating the neck region where the vertebral arteries are intensely vulnerable to excessive force or rotation. The toggle-recoil adjustment, which was taught by B. J. Palmer as the ultimate maneuver for aligning the occiput with the atlas and axis, often induces a "crushing" impact to this region of the spine. It is apparent here that the adjustive maneuver caused a temporary luxation that compromised blood flow to the brainstem, creating a catastrophic neurological insult. This technique is at best ill-advised and should be discarded.

As the records show, Dr. Peterson did not excuse or defend his action. Both chiropractors, of course, should have called an ambulance and had the patient hospitalized. This case offers a painful example of catastrophic, permanent, disabling neurological deficits resulting from forceful, mechanically unsound treatments. A stiff neck can usually be treated conservatively with no threat to the patient's life or function. This case was settled in favor of the plaintiff for the full amount of the policy without any depositions or trial.

15 Brainstem Ischemia Following a Toggle-Recoil Adjustment and Seated Rotary Cervical Adjustment

After about four hours of cutting and loading wood, Harry Doe, an air-traffic controller, experienced dull lower back pain and some stiffness between his shoulders and in the neck. He consulted a chiropractor, and one week later was hospitalized with a suspected brainstem injury.

Chiropractic consultation

The chiropractor noted on his entrance form a complaint of neck pain. On an office questionnaire the patient listed sweating, dizziness, and stiff neck with pain between the shoulders. This 31-year-old man had no history of spinal fractures or significant disabling injuries. He received a football injury while in high school, but was not able to recall any significant treatment for it. So far as he knew he was in excellent health.

The clinical record form indicated that the chiropractor used a skin temperature recording instrument that produced a graph reading of the skin surface temperature along the spinal column. There is one notation: "Neck hurts more severely upon rotation to the left." This is the only indication of any examination of the neck region; however, approximately 15 routine orthopedic tests related to the lower back were listed, some of which were positive and indicated a lumbar sprain or possibly lumbar nerve-root irritation. There were no results for neurovascular, orthopedic, or neurological tests relating to the neck region of the spine. The radiological records showed that two 14 × 36 full spine X-rays were taken, but there was no indication of any specific cervical views.

Plaintiff's presentation of facts and medical opinion

Under questioning by his counsel, Mr. Doe stated that he entered the chiropractor's office with lower- and mid-back and neck pain. He requested an examination and treatment. He related that for about 15 minutes the chiropractor took X-rays and then did some muscle work on his lower back. He was then given an appointment for the following day when the X-rays would be reviewed with him.

On these subsequent visits, the patient explained that the chiropractor placed him on his left side with two books between his head and the headrest area of the adjusting table. Following this, the chiropractor stood over him, made contact with one hand on his neck and somehow clasped this hand with the other. Harry felt a "slamming" pressure against his neck and "saw stars." The adjustor then clipped the mechanism of the headrest and administered another thrust. Judging from this description, Mr. Williams was given a toggle-recoil adjustment; the table mechanism employed is known as a "drop headpiece." He had difficulty arising from the table and experienced increasing soreness and stiffness with a lack of mobility in his neck as he walked from the office. The dizziness that he felt immediately following his adjustment passed, and he was able to drive himself home. In the deposition, the patient described the adjustment as follows:

Q. In any event, you were lying on your left side, and the left side of your head is on this adjustable cushion or spring, or whatever it is, to begin with, and then he puts two books in between that and your head.

A. Yeah.

Q. All right. What happened then?

A. Well, then he put both hands on my neck and pushed down.

Q. Was he standing directly over the top of you when he does this?

A. Yeah. He was standing over the top of me and then he pushed down real hard, and then he pulls the mechanism back up and hits it again.

Q. He pulled the mechanism back up. How did he do that?

A. Well, he reached down underneath of it and just pulled the thing up, just hits it. It's like it's a spring load that goes over-center and then it drops away and then it stops, like it takes so much pressure to

make it go over center; then it springs up and then it drops away and stops. So he did that twice, real hard.

With increasing stiffness, soreness, and pain in the neck area, Harry returned to the chiropractor's office for his third visit, at which time the chiropractor walked up behind him, grabbed his chin with his left hand, and rotated his neck, first to the left and then to the right. This procedure is called a "seated cervical rotary adjustment." It may be recalled that this maneuver can place the vertebral arteries in a severely compromised position and impede blood flow to the upper spinal cord and brainstem. Following this adjustment, the patient experienced slight dizziness, but he was able to return home to rest the remainder of the day. He returned to the chiropractor's office for the fourth and last visit:

Q. What happened on that Wednesday?

A. Well, that Wednesday morning I had an appointment at 10:00, and I left the house about a quarter to ten. Then about halfway there, I stopped at a stop sign and looked to the left to see if everything was clear and I looked to the right to see if things were clear, and my neck was still stiff. I looked to the right and it popped, you know. I heard a popping sound in my neck. So I continued going around the corner and drove about a block, and I got severely dizzy; so I rolled down the window and pulled over and parked the car. I felt like I needed air, and so I got outside and walked around back and I laid [sic] down on the side of the curb, you know, in the grass, to get some air. Some people came along and helped me get to see the doctor.

He was assisted by a friend into the office for his last visit. The chiropractor had him remove his shirt after which he did an analysis using the thermograph or skin temperature recording instrument. Following this, the chiropractor again administered a seated rotary adjustment. Mr. Doe then became extremely dizzy and vomited. He tried to stand and walk, but was unable to do so:

Q. O.K., and then as a result of that, what happened to you?

A. Well, I was sick, you know. And I was really violently dizzy where I couldn't walk.

Q. More dizzy than you had been when you walked through the door?

A. Yeah. Well, it was to the point where I couldn't walk. And I started throwing up, and then my left side was going numb. My speech was really slurry, and I was having a difficult time swallowing. And I was getting more scared by the second, you know. And I asked him what do you think is the matter, and that's when he laid this line on me that he thought I was having a flash-back from acid or something.

Q. That was what he said to you?

A. Yeah. That's what he said to me. And I said, "There's no way. I've never taken acid in my life." And I looked at him and I said, "From a layman's aspect. . . ."

Following this fourth encounter with the chiropractor, Mr. Doe was ushered out the back door of the office and helped into the chiropractor's wife's car. She was instructed by her husband to drive Mr. Doe to his house where he could rest. According to his testimony, she quietly drove him home, pulled into the driveway, opened the door, and helped him out, whereupon he sat on the curb as she drove off. He was still experiencing some dizziness, and according to his testimony, had to crawl part of the way into his apartment:

I had to crawl on hands and knees up a few steps to get in the door, and as soon as I reached up and got the door open, I crawled into the kitchen and I called for my roommate to come to help me.

The vomiting started again at this time, and his roommate, a registered nurse, called an ambulance. Mr. Doe was taken to a local hospital.

Medical treatment

Following extensive neurological examination and X-rays, the ultimate diagnosis, despite no apparent gross neurological damage, was a "brainstem stroke." Mr. Doe was hospitalized for nine days and was treated medically and reexamined. Radiographs and X-rays of the cervical spine did not show any fractures or particular bone pathology. He was followed for a year, after which he was finally certified as able to return to work as an air-traffic controller.

Alleged malpractice

In the complaint for damages, the plaintiff's counsel listed four points of alleged negligence:

1. He stated that according to the records, the examination of the cervical spine was insufficient for the complaints. Specific neurovascular examinations should have been performed to determine if Mr. Williams had any predisposing anatomical or vascular irregularities that would indicate caution in performing any rotary adjustments.
2. It was stated that the X-ray examination was insufficient and that specific views of the neck should have been taken.
3. Plaintiff's counsel alleged that Mr. Doe should have been informed of the possible risks of the rotary adjustment and should have been asked to sign a consent form.
4. It was further stated that Mr. Doe was abandoned when he was left at his home by the chiropractor's wife, and that he should have been sent directly to a hospital following the first incident of dizziness and vomiting following the adjustment.

Summary and discussion

The author was asked to give his opinion in this case. He agreed with all four allegations of negligence, and stated that it was unquestionably a case of abandonment when the patient was escorted from the office after the second episode of dizziness rather than taken directly to a hospital for emergency care. The potential permanent neurological damage in vertebral artery compression can be lessened if the patient is treated in time with anticoagulant therapy. Mr. Williams was fortunate in being able to return to a highly demanding job one year after this incident. The toggle-recoil adjustment administered in this case is still used within chiropractic, but serious questions have been raised concerning its safety and efficacy in reducing cervical subluxations.

It is interesting that in this case the rotary adjustment following the toggle-recoil maneuver did not produce immediate catastrophic effects; there was some delayed reaction as the patient traveled to the office for his fourth visit.

The placing of the books between the patient's head and the headpiece on the adjusting table represents an obvious violation of standard procedures. In his affidavit the author stated that it was his opinion that placing the books in this position may well have impeded the "drop mechanism" of the headpiece and indirectly increased the amount of force ultimately absorbed by the patient's neck. This,

would be difficult to prove without extensive physical testing of the mechanism, which was not done. The case was settled for the full amount of the defendant's policy in favor of the plaintiff.

16. Rupture of Chronic Degenerated Lumbar Disc Following a Two-Month Chiropractic Adjusting Regimen

Mark Doe, a 68-year-old retired worker with a long-standing history of chronic lower-back pain, consulted a chiropractor in December 1975. After approximately 30 spinal adjustments, Mr. Doe underwent a surgical fusion with excision of two lumbar discs at L4-5 and L5-S1.

Medical and chiropractic history

The medical history was unremarkable except for that portion of that related to his chronic lower-back problem. He had received various medical treatments over the years, including medication, hospitalization, and traction, and he used a corset-like back support intermittently. His last visit to a medical physician for these complaints was approximately one year prior to his entrance date for chiropractic care.

The chiropractic history was thorough. The chiropractor composed a very clear picture of chronic nerve-root irritation in the lower back. The examination, however, was cursory and incomplete. The examination form provided an excellent and thorough outline, but the page was blank except for notations that the patellar reflex was "O.K." and the patellar and Achilles reflexes were "very active." The superficiality of the examination affected the chiropractor's diagnosis:

DIAGNOSIS: Sciatic neuralgia associated with L5 subluxation and possible discopathy complicated by 2 mm left leg deficiency.

Two spinal X-rays were also taken, A to P and lateral views of the lower back, which the author did not review.

Chiropractic treatment and defendant's presentation of facts

The chiropractic treatment records were thorough and legible, and depicted a chronic lumbar-disc syndrome clearly worsening under spinal adjustive care. From December 2, 1975, through February 11, 1976, the clinician's notes show beyond doubt that the patient was not responding to his mode of therapy. Regarding the history, the defendant's deposition stated:

A. It says, "Left side. Pain in left buttocks, numbness, pins and needles in left leg below the knee. Had fallen in '40s—1940s—hurt back and leg when in service. Has had problem with left leg on and off for years."

Q. Is that the writing of the patient or is that writing of the staff where you worked?

A. No. That's my writing.

Q. Now, where did you get this information?

A. I had an interview with the patient.

Later in the deposition the defendant made it clear that he understood the degenerative process in his patient's lower back:

A. Why did it occur at this time?

A. Well, the patient had a chronic degenerative process going on in his back and it was progressing.

Q. Chronic degenerative what?

A. A chronic degenerative process was occurring in the low back, disc, and it was proceeding ahead. At this time I was unable to stop it.

Q. But when the calf reacted sharply to the pinwheel it indicated there's an increased nerve irritation in the fifth lumbar area?

A. It indicated there was more pressure on the fifth lumbar nerve. Yes.

Q. And what is the mechanism of the pressure, the course of the pressure, the etiology of the pressure?

A. The bulging of the disc is usually the source in cases like this.

Q. Bulging between the vertebral discs?

A. Yes.

Midway through the approximately eight-week treatment regime, the chiropractor took a progress X-ray of the thoracic spine, apparently to see if there were other factors contributing to the ongoing symptom complex. The only notation the author saw in the records regarding this X-ray was "not good yet."

It appears from the records that the patient was receiving "lumbar rolls," or side-posture rotatory lumbar adjustments. Throughout his deposition the defendant supported these maneuvers as standard for his diagnosis. In conjunction with the adjustments, the records indicate that the patient received trigger-point therapy or deep manual pressure over the areas of pain and tenderness in the buttock and lower extremities.

Medical treatment

Mr. Doe was abruptly admitted to a hospital on February 16, 1976, after having been seen in his medical doctor's office one day following his last chiropractic adjustment. The medical physician admitted him for conservative care with a provisional diagnosis of:

Degenerative disc disease, symptomatic at L4-5 level with left lower extremity radicular manifestations and neurological deficit in L5 nerve root distribution.

His physical examination was unremarkable except for the positive tests relating to the lower back, which included the following:

MUSCULOSKELETAL: examination of the lumbar spine reveals a sciatic list to the right with elevation of the left hemipelvis. He is tender in the entire lumbar midline with moderate paravertebral muscle spasm. He has tenderness to palpation of the left posterior hip, buttock and thigh. Range of motion is markedly restricted.

Examination of the lower extremities reveals positive SLR on the left side at about 50°. Deep tendon reflexes are normal. There is significant weakness of the dorsal flexors of the ankle and great toe on the left foot. There is some evidence of trophic vascular change in the extremities.

The examiner concluded his initial work-up with an impression of:

Degenerative disc disease, probably symptomatic, at the L4-5 level with left lower extremity radicular manifestations.

After a ten-day trial period of conservative care, which included lumbar-pelvic traction and daily physiotherapy to relieve muscle spasms and lower-back pain, Mr. Swanson was not improved. Approximately eleven days following hospital admission, a lumbar myelogram was performed that indicated the following:

MYELOGRAM: A lumbar puncture was done at L2-3 by Dr. Smith and 11 ml. of Pantopaque injected. The lumbar subarachnoid space was examined and after the study the contrast was removed. There is a prominent extramedullary extradural pressure defect on the left laterally and dorsally. A small defect is also present on the right side at this level. The discs all bulge somewhat but L4-5 is the only one which is clearly abnormal.

IMPRESSION: L4-5 disc primarily on the left.

Subsequent surgery was successful with an excision of the discs at L4-5 and L5-S1. The patient was released on March 8, 1976, wearing a lumbosacral support and with prescriptions for Percodan and Valium for residual pain. His estimated time for rehabilitation to an undetermined degree was one year. The records indicate that there was no evidence of motor or sensory loss, and when the patient left the hospital, he was walking without difficulty or support.

Alleged negligence

The plaintiff's counsel alleged the following in his complaint for damages:

1. That the defendant engaged in a course of chiropractic treatment upon the plaintiff from on or about December 2, 1975, to on or about February 13, 1976.
2. That said defendant did engage in a course of chiropractic treatment involving the manipulation and adjustment of the spinal column and supportive musculature of the plaintiff's body. That the plaintiff had a condition known as a degenerative disc existing in his spinal column. That the treatment of the defendant did cause said degenerative disc to protrude and rupture, which did cause the plaintiff pain and discomfort, will cause him future pain and discomfort, and permanent injury.

At said time and place the defendant was negligent in the treatment of plaintiff, which negligence was a direct cause of plaintiff's injuries, in that:

1. Defendant did fail to adequately and properly diagnose plaintiff's condition, and
2. Defendant did manipulate the plaintiff's spine in such a manner so as to cause the intervertebral disc to extrude and rupture.

Summary and Discussion

This case of disc rupture under rotary lumbar adjustments should never have happened. The defendant took a thorough history that clearly depicted the patient's condition. The X-rays, which the author did not review would probably have been adequate for a primary diagnosis. The examination was cursory and insufficient for a final diagnosis; however, the history was so clear that the tests would only have served as confirmation.

The treatment records gave a continuing picture of a condition that was not responding to the therapy applied. The defendant, made many indications in his records that Mr. Swanson was worsening

under his treatment; a more conservative approach should have been instituted long before it actually was. With the symptoms presented, the alleged rotary adjustments should not have been chosen as therapy in the first place. This individual should have received anti-gravity treatment and a more conservative stretching therapy for his lower-back condition.

The defendant, throughout his deposition, said that his treatment was normal procedure. It was not. In an affidavit, it was the author's opinion that the adjustments were definitely the cause of the tearing and protrusion of the chronically weakened lumbar discs. The treatment aggravated the condition to a point necessitating surgery.

The author did not review any medical or chiropractic defense opinions. His affidavit in support of the plaintiff's allegations concluded as follows:

I have reviewed the depositions of both patient and doctor, and the medical records. It is my firm impression that the chiropractor did not follow usual and standard acceptable practice for chiropractic in Minnesota. There is no evidence that manipulation is helpful for disc degeneration. Rotary chiropractic manipulation is contraindicated in a case like this. There is research evidence available that proves such manipulation can cause permanent damage to the discs and nerves of the spine.

This case was settled in favor of the plaintiff before the author's deposition was requested.

17. Lumbar-Disc Rupture Following a Slip-and-Fall Injury and Spinal Adjustments

Robert Doe, a 37-year-old oil-well rigger, slipped at work and hurt his lower back. He reported to his company's emergency medical center. When he entered the physician's office he was in the antalgic position, leaning to the left, complaining only of lower-back pain with no leg radiation. The physician examined the lower back, noting extreme tenderness and spasms from L1 to S1. Mr. Doe was fitted with a lumbar support, received a prescription for medication, and was advised to spend one week resting in bed. By the third day, however, Mr. Doe became impatient, and according to his counsel, sought the services of a chiropractor to "speed up" his recovery.

Chiropractic evaluation and treatment

The only information that the author reviewed in this case was given to him over the telephone by the plaintiff's counsel. He was told that the patient was adjusted approximately ten times over a 15-day period, and that he was also given infrared therapy and some type of electrical muscle stimulation to ease the lower back spasms. According to the plaintiff's statement, he was not examined and no X-rays were taken. Mr. Doe returned to work on the fifth day, telling his employer that under the chiropractor's advice and treatment he was able to resume his duties.

By the fourth visit, the patient began to experience left-leg pain and some numbness in the left foot. The defendant claimed in his affidavit that he did not manipulate or adjust the lower back, but worked strictly on the muscles to relieve the spasms and allow the body to heal itself.

Following the tenth visit, Mr. Doe was again sent home by his employer to rest and consult his private medical physician, who made a preliminary diagnosis of lumbar-disc disease. He was hospitalized and a lumbar myelogram was ordered. The patient spent approximately 25-days in the hospital undergoing conservative care under the direction of an orthopedist in consultation with a neurologist. Although Mr. Doe recovered from the disc episode and did not require surgery, he was left with slight to moderate sensory and motor deficits in his left lower extremity. The plaintiff decided to find a new occupation to lessen the stress on his back rather than undergo proposed surgery.

The author did not review medical or chiropractic records in this case, but his opinion was that (1) the chiropractic examination was inadequate; and (2) the adjustments as described to the author were lumbar rotary maneuvers, and were the probable cause of the protruded disc discovered after the myelographic studies. The author concluded that the patient's spine should have been immobilized and rested rather than forcefully adjusted. This case was settled, without any further involvement of the author, in favor of the plaintiff.

18. Ruptured appendix and Resultant Peritonitis Following Holistic Chiropractic Treatment

Donald Doe, a 56-year-old male complaining of persistent abdominal pain and with a history of chronic colitis, entered an East Coast holistic chiropractic clinic for evaluation. His religious and philosophical beliefs motivated him to seek "natural" treatment; his minister had already attempted to cure him and failed.

The health-care regimen prescribed nearly killed the patient. After ten days of intermittent fasting, ingesting of vegetable juices, spinal adjustments, and ten colonic irrigations with a coffee solution, Mr. Doe hospitalized himself and was immediately operated on for removal of a ruptured appendix.

The author did not review any medical or chiropractic records in this case. A phone consultation with the plaintiff's counsel was his only involvement.

Summary and discussion

The author's case notes indicate that the defendant claimed that Mr. Doe was fully informed of the somewhat experimental nature of the treatment offered. Here again, the patient, in a sense, contributed to his own difficulties by rejecting orthodox medicine and embracing unorthodox, unproven methods. Mr. Doe had been severely disappointed in past medical treatment, and this was a major factor in his acceptance of this dangerous, "natural" regimen. His acquiescence did not, however, excuse the chiropractor, who presented himself as a primary health-care practitioner with the ability to determine and administer appropriate treatment for the symptoms presented. The chiropractor was practicing experimental medicine, and without a license.

The surgery was successful but the author was not informed if there were any residuals caused by the delay in treatment. This case was settled in favor of the plaintiff.

19. Death of a Healthy 26-year-old Woman Following One Supine Rotary Break Adjustment

Sally A. Kaplan, a 26-year-old housewife and new mother, entered a chiropractic office with her six-week-old daughter and requested treatment for a stiff neck that had been interfering with her breast-feeding and normal household activities. There was no history of trauma, but Ms. Kaplan had a vague recollection that she had injured her neck five or six years before in a gymnastic class.

The author did not review any records in this case, but was given information over the telephone by the plaintiff's counsel. He stated that Ms. Kaplan entered the chiropractor's office on a Monday at approximately 9:30 a.m. and died the following day at a major university hospital following emergency medical treatment for a massive vertebral artery rupture.

The author was told that the chiropractor did brief motion tests on the neck region, but did not take any X-rays or perform any neurological examination. The chiropractic history indicated that Ms. Kaplan's symptoms had been present for three weeks and seemed to be worse in the morning. He placed her in the supine, face-up position on his adjusting table, placed his hands on opposite sides of her head, and twisted her neck, first left and then right. Immediately following the adjustment, Ms. Kaplan complained to the

chiropractor that she could not “see straight” and was experiencing nausea and extreme headache. She was unable to raise her body from the table and the chiropractor immediately called an ambulance. She was hospitalized within four hours of the adjustment and died the next morning.

Summary and discussion

The author did not read any of the hospital records or autopsy reports, but was told that the damage to the left vertebral artery was “severe and massive” and there was moderate disruption on the right side. This is one of the saddest cases the author has ever reviewed. It is a powerful argument for the need for extreme caution in administering adjustive maneuvers to the neck particularly those entailing rapid and extreme rotary actions. This case was settled in favor of the plaintiff for the full amount of the policy.

20. Fractured Rib from a Prone Thoracic Adjustment

The author has only very brief information on this case, which involved a rib fracture following a prone P-A thrust on the mid-thoracic spine. Ms. Christy Lewis presented with mid-back pain radiating to the right lateral thoracic area, following a slip on an icy sidewalk. The chiropractor listed on the patient’s entrance sheet, “Severe pain in the right middle back, which increases on exertion or deep breathing.” There were two X-rays taken, lateral and an A-P thoracic spine.

Medical history included a notation of a lump on the right breast, and there was an indication in the case records that Ms. Lewis, a forty-six-year-old female, was referred to her family medical doctor for an examination. There was nothing in the history to indicate prior spinal fractures, and only one injury seemed significant, a “whiplash automobile accident” five years prior to the fall.

Chiropractic treatment consisted of four adjustments over a four-week period. On the last visit, Ms. Lewis experienced excruciating pain following what she thought was a “heavy pressured adjustment to my mid-back.”

The plaintiff’s counsel informed the author that the chiropractor did not offer any defense, and there was settlement shortly after filing of the complaint for damages.

Summary and discussion

Often when administering a prone P-A thoracic adjustment, the chiropractor exerts force not only over the musculature above the vertebrae, but on the ribs where they attach to the vertebral processes. Some pressure on these structures is virtually unavoidable; and if one is not cautious, especially with patients who may have osteoporosis, damage can occur. Usually it is only a temporary sprain of the articulation, but if excessive force is used, one or more ribs or transverse processes can be fractured. If severe pain is reported following any such adjustment, the chiropractor should, of course, immediately stop; fit the patient with a thoracic support; and consider referral to an orthopedist.

21. Treatment for Allergies and Nervousness With a Recommendation to Remove Dental Fillings

Ms. Eloise Carter, A 48-year-old, slightly obese, extremely nervous woman, entered a holistic chiropractic clinic upon the recommendation of a sister-in-law for fatigue, dyspepsia, nervousness, and allergic reactions, some of which were manifested by a general skin rash. She was told that the fillings in her teeth were interfering with her body’s “polarity” and interrupting the “nerve flow” of her central nervous system. This “negative polarity” supposedly created by the fillings was explained as the cause of her problems.

The chiropractor examined Ms. Carter, using a wide spectrum of vogueish holistic tests. They included examination of her saliva and hair, skin scrapings, and blood and urine tests. She was also given a thorough “medical” examination and was tested with some type of electronic device.

During her second visit the chiropractor reported the results of the tests. He told Ms. Carter that to improve her body metabolism she would have to balance her body's energy fields and its polarity. Unfortunately, he said, her dental fillings were the primary cause of this disruption in her "life energy flow." She became suspicious and consulted her medical physician, who suggested that she file a complaint through her attorney. The author did not review any chiropractic or medical records in this case. He was asked only for an oral opinion by telephone regarding the appropriateness of the care given.

Summary and discussion

It was the author's opinion that this chiropractor was practicing unscientific medicine outside the scope of standard chiropractic. The author suggested that the treatment plan, which included mega-vitamin therapy, fasting, and massage, was not routine, standard care. The matter of the dental fillings and "body polarity" required no comment! This case was settled in favor of the plaintiff.

22. Chiropractic holistic Therapy for Medical Diagnosed Breast Cancer

The information the author reviewed in this case was relayed to him over the telephone, and he did not review any of the chiropractic or medical records. Ms. Agatha Windsor, a 53-year-old woman previously diagnosed with cancer and undergoing radiation therapy, consulted a chiropractor dealing in holistic treatment to see if anything "natural" could be done for her condition.

The chiropractor did a comprehensive physical examination and extensive laboratory tests including hair analysis, saliva tests, blood and urine tests, and some type of radiation analysis of the thoracic area. The plaintiff's counsel told the author that the chiropractor was fully aware of the history and the current treatment for the breast cancer. He told the patient that there was a chance that "natural" healing methods could lessen her reaction to the radiation therapy and bolster her inherent healing powers to overcome her condition. She was not promised a cure.

A treatment regime was prescribed that included mega-vitamin therapy, colonic irrigation, fasting, a vegetarian diet high in raw vegetables, and large amounts of vegetable juices and water. Negative galvanism was administered over the thoracic spine, but no traction or spinal adjustment was given.

Ms. Windsor was still seeing her medical physician for radiation therapy, but according to her testimony was encouraged to gradually cut down on treatments and was told that eventually she would probably have no need for them. After a few weeks of treatment, she became concerned and revealed what she was doing to her medical doctor. It was his opinion that the regime prescribed for her would have no effect on her condition, and that radiation was the optimal treatment.

Ms. Windsor died a few months after the initiation of treatment and her husband filed a complaint with the chiropractic disciplinary board. His private attorney requested damages. The allegations were that the chiropractic regime prescribed by the defendant was improper; and that the plaintiff was led away from needed medical care, which hastened her demise. The defense argued that the patient was fully informed and freely chose to undergo "natural" treatment versus radical surgery or long-term radiation therapy.

Summary and discussion

This case shows clearly that a primary-care practitioner must stay within his scope of practice and obtain the patient's informed consent to any experimental or unproven modalities within the treatment prescribed. Holistic treatment, including fasting, mega-vitamin therapy, colonic irrigations, and certain electrotherapies, is often used by chiropractors, but is not considered usual and standard care for conditions such as breast cancer. It is no defense that the patient was informed as to the likelihood of improvement of cure; at the same time she was encouraged to follow an unproven regimen for a serious condition. The author was not told of the outcome of this case.

23 Collapse of Two Lumbar Vertebrae Weakened by Cancer Following One Prone Lumbar Adjustment

Harvey Raymond, a 59-year-old, retired logger, had experienced lower-back pain and urinary problems for approximately two years. He had undergone a urological examination sometime during the two years prior to consulting a chiropractor. The author was retained only as a consultant in this case and was not asked to review medical records or give a written report. What information the author received indicated that the chiropractor took three X-rays of the lumbar spine, had the patient wait for approximately one hour while he developed them, and then administered one adjustment to his back.

Immediately following the adjustment, the patient screamed out in pain and told the chiropractor that he could not move his legs. Mr. Raymond was transported by ambulance to a local hospital. Medical examination and X-ray studies showed a massive collapse of L4 and L5, which were later determined to have been weakened by cancer metastasized from the prostate gland.

Summary and discussion

In this case, the chiropractor who attempted to give quick relief for a long-standing condition was his own and his patient's worst enemy. A proper X-ray study and possibly orthopedic and neurological tests would have cautioned him against administering a forceful adjustment. A thorough history, particularly of the urinary complaints, would have alerted the practitioner to more closely examine the osseous structures of the lower back, and guided him to a conservative treatment regime. This case was settled in favor of the plaintiff.

24 Treatment of Lower Back Pain in a Patient with Undiagnosed Hodgkin's Disease

Thomas Doe, a 34-year-old attorney, consulted his neighbor, a chiropractor, for intermittent lower-back pain of four months' duration. Although the pain was persistent in the lower-back region, it had not radiated into the lower extremities. Mr. Ward received a brief spinal examination and lumbar X-rays, and was given spinal adjustments on a regular basis for approximately four months. The pain persisted, and he consulted another chiropractor whom his law partner knew. This practitioner X-rayed his spine, did routine orthopedic and neurological tests, but did not perform any urine or blood tests.

Following another 60 days of spinal adjustments, the attorney became concerned that he might have a tumor or serious neurological condition in his spine. He consulted his family medical doctor. After laboratory tests and spinal X-rays, his physician referred Mr. Ward to a hematologist who, after initial blood tests, hospitalized him for extensive blood analysis. Hodgkin's disease was subsequently diagnosed, and the author was informed that the condition is under control.

The chiropractic treatment had not done any apparent damage to the spine or nerves; the question in this case was what effect the delay in medical treatment had. After telephone consultation with the author, the attorney decided not to file any complaints against either treating chiropractor.

Summary and discussion

This case again points out the danger of relying only on physical examination and X-rays to determine if there is underlying disease or bone pathology. One would, of course, not expect a man at this relatively young age to have a serious disease related to osseous structures of the spine; but when symptoms persist over weeks or months, it is certainly necessary to reassess the treatment and to seek medical consultation.

25 Massive Rupture of C5-6 Cervical Disc

Michael Crawford, a 28-year-old male with no history of neck injuries or fractures, consulted a chiropractor after he awoke one morning with acute, moderately severe pain in the left side of his neck.

His first visit included an examination, two X-rays (A-P and lateral views of the cervical spine), and one prone cervical adjustment. This did not significantly affect his condition, but the following day, after a second adjustment, he experienced severe left lateral neck pain, radiating to the fingers of the left arm. He could not raise his head from the table and screamed for help. With difficulty his wife got him to the car and drove him to a hospital. A myelogram ordered by the emergency-room physician showed an obvious, massive disc rupture at C5 and C6. Surgery was performed the following day. It was successful, but the patient was left with a chronically stiff neck and moderate loss of left-arm motor function. The extrusion of the disc was so extensive that there was immediate and permanent nerve-root damage.

It was the opinion of the plaintiff's medical witness that in view of the sudden onset of the pain with no history of fractures or recent injuries, the second chiropractic adjustment was the cause of the extensive, massive rupture of the annulus at C5 and C6. This case was settled in favor of the plaintiff before depositions were ordered.

Summary and discussion

From the damage found after myelographic studies and surgery, the author can only assume that the second adjustment was administered with quite excessive force. Under such stress, even healthy, strong cervical ligaments can undergo massive rupture. Further, joints already swollen and contracted cannot withstand a great degree of force. With injudicious treatment, a condition that begins as a musculoligamentous fixation of one or more spinal joints can progress to a full-fledged neurological disorder.

This patient should have been prescribed a conservative regimen of passive neck traction, hot and cold packs to reduce swelling, and, after a few days, gradual isometric extension maneuvers to release the fixations in the neck.

26 Surgery for Spondylolisthesis Following Chiropractic Adjustments

To: Peter J. Modde, D.C.

From: Barney I. Smith, Attorney at Law

October 6, 1980

I am in receipt of your letter and enclosures of September 13, 1980. As per our conversations, I am enclosing the following data for your initial opinion regarding alleged chiropractor malpractice by the Sperry Chiropractic Clinic of New York City.

I represent Jerry Doe, approximately 37 years of age, who suffered a low back injury in late July. Treatments were undertaken by the Jones Chiropractic Clinic in late July. Dr. Jones advised Mr. Doe that a vertebra had slipped forward and the doctor would bring it into alignment. X-rays were taken and manipulation was applied. After the fifth or sixth week of treatment Mr. Doe was unable to get out of bed on his own. The treatments continued, during which time Mr. Doe suffered severe back pain. Finally, in August, Mr. Doe experienced pain in his right leg and hip with no feeling in his right foot. He mentioned this to Dr. Jones who responded that there was pressure on the sciatic nerve and the back was out of alignment. The manipulations continued. As a matter of fact, there was no change in the manipulation to this point, or any time during the treatment. As the treatments progressed, Mr. Doe suffered continued pain down his right leg which he described as extreme. He experienced continued numbness in his right foot. The doctor's comments were always that there was pressure on the nerve. There was no mention of any disc problem.

Finally the pain became so severe that Mr. Doe sought the advice of an orthopedic surgeon, Dr. Paul. Upon examination, Dr. Paul within five minutes diagnosed a ruptured or perforated disc. A myelogram was taken the day before the back surgery which confirmed Dr. Paul's diagnosis. On October 3, 1979,

Mr. Doe underwent an operation involving a laminectomy and back fusion involving L4 down to the sacrum. Mr. Doe's symptoms at the time of Dr. Paul's examination were discomfort and pain in the low back, ranging from moderate to excruciating, overwhelming and severe leg pain, and a numb or "dead" foot.

My investigation at this time revealed that the Jones Clinic and Dr. Jones were negligent by: 1. failure to diagnose; 2. failure to advise Mr. Doe to consult a medical practitioner or specialist; 3. the continuation of manipulative treatments when a patient complains of symptoms such as pain in the low back ranging from moderate to excruciating, overwhelming, and severe leg pain, and a numb foot, and 4. any other negligence that future investigation may reveal. I feel that the negligence on the part of the Jones Clinic and Dr. Jones as stated above was the proximate cause of Mr. Houser's injury, described by Dr. Paul as a herniated disc at the L4 L5 interspace.

Chiropractic has been variously defined as a drugless method of treatment of human ailments by manipulations of the spinal column with the hands, or palpating, analyzing and adjusting the spinal column and adjacent tissues by hand. It is a generally accepted principle that a physician has a duty to advise a patient to consult a specialist or one qualified in a method of treatment which the physician is not qualified to give, where he knows, or ought to know, that he does not have the requisite skill, knowledge or facilities to treat the patient's ailment properly, or that the method by which he is treating the patient's ailment is not providing relief or affecting a cure. The same principle would apply to a chiropractor.

In Mr. Doe's case the Jones Clinic and Dr. Jones failed to advise Mr. Doe to seek other and different physicians after it appeared that the course of treatments had resulted in the worsening of the patient's condition. The continuation of manipulative treatments would not be in keeping with the ordinary, accepted standards of care and treatment in any school of medicine in this area. Further, the negligence on the part of the chiropractor may be established by the chiropractor's exceeding the limits of the statutorily defined bounds of his profession.

I have enclosed two medical reports from Dr. Paul dated January 3, 1980, and September 12, 1980, together with a medical record of Mr. Houser's treatments at the Jones Clinic and two x-rays of Mr. Doe's back taken on July 30, 1979, by Dr. Jones. I would appreciate your providing this office with an opinion as to whether or not the treatment by Dr. Jones was negligent in light of the symptoms which Mr. Doe was suffering, and whether or not Dr. Jones was negligent in not referring the matter to a medical specialist when it appeared that the manipulative treatments had resulted in the worsening of the patient's condition. If you have any questions, please advise. Your early cooperation is greatly appreciated.

Chiropractic records

The chiropractic records in this case consisted of one sheet of paper listing approximately ten visits and a written diagnosis of "lumbar spinal sprain with subluxations of L4, L5, S1." There was a notation that two lumbar X-rays were taken, but no evidence of orthopedic or neurological tests.

The last chiropractic adjustment was given on September 7, 1979, and on October 2, 1979, the patient was admitted to the hospital.

Medical Opinion

The consulting medical physician gave the following opinion regarding the chiropractic X-rays:

I have the x-rays that were hand delivered to my office from the Jones Chiropractic Clinic. In reviewing Dr. Jones x-rays, I can see no narrowing or evidence of a herniated disc at the L4, 5

innerspace. It is my opinion that plain x-rays were not sufficient to discover an acutely herniated disc, and that myelography is necessary to make a definite radiologic diagnosis.

The report issued by the consulting medical physician, the Dr. Paul mentioned in Smith's letter above, was as follows:

To: Barney I. Smith, Attorney at Law

From: P. Paul, M.D.

I first saw Jerry Doe on September 11, 1979. At that time he gave a history of having intermittent rather minor backaches in the past, but prior to my seeing him he gave a history of having a marked increase in his pain in his back and the appearance of rather severe pain radiating down into his leg. He also noted some numbness and tingling on the outer aspect of the foot as well. On my examination at that time, he had positive straight leg raising at about 20 degrees. He had no reflex change at that time, but he did have decreased sensation in the S1 distribution. I told him that I thought in addition to the spondylolisthesis, which was a pre-existing condition of the L5, S1 level, that he probably had a herniated disc in his back. He had tried home bed rest, but his symptoms continued unabated, and so he was finally admitted to the hospital on October 2, 1979. At that time, the examination revealed tenderness and muscle spasm in the back, positive straight leg raising on the right at about 20 degrees and cross straight leg raising on the left at 30. His reflexes were intact at that time. He had decreased sensation in the L5 distribution and had some decreased strength of his extensor hallicus longus. A myelogram was done which showed a defect at the L4, L5 innerspace which was consistent with a herniated disc. He accordingly underwent an operation on the 3rd of October in which a large sequestered fragment of disc was found which is felt to have come from the L4, L5 level. This was removed and because he had had the pre-existing spondylolisthesis, a fusion was done from the 4th lumbar vertebra down to the sacrum. He also had the removal of the loose posterior element of L5 which is called a Gill procedure. Postoperatively he did extremely well, and I have seen him on two occasions, the last being on 5th of December, 1979. At that time the grafts were in good position and were incorporating. His activity was increased. He still was limited because the fusion is not completely solid. Mr. Doe is correct in that he does not have the mobility and flexibility that he did prior to the accident. How much of this he will regain will not be known for several months.

It is my impression that the pain he described in his right leg with the numbness and tingling along with the past history of back pain would be indicative of a herniated disc.

Generally it is felt that treatment of a herniated or sequestered disc is usually centered around rest and some physical therapy to the back, and if this does not relieve the symptoms, sometimes surgery is indicated, although not in all cases.

Summary and discussion

Mr. Smith's letter gave an excellent summary of the case and covered all of the essential aspects of chiropractic negligence. Mr. Houser testified in his deposition that following the operation he was able to work, but could not engage in his former recreational activities, such as playing racquetball and softball, jogging, and mountain climbing. Whenever he attempted one of these, he became severely restricted in his movements and missed work for three or four days under medication and bed rest. The plaintiff's expert rated his permanent, partial impairment at 50 percent; the defense chiropractic expert, a chiropractic college instructor, placed it at 10% on the Whole Man Scale.

The author was not asked to issue a written report in this case, and subsequent communications were by telephone. It was his conclusion that the treating chiropractor did not adhere to proper standards by continuing treatment when it was obvious that the patient's condition was worsening. Another important factor was the spondylolisthesis, which should have signaled extreme care in administering any

lumbar rotary adjustments. The plaintiff testified that he was placed on both his right and left side and somewhat violently twisted during at least eight of his ten visits. Also the X-rays were not sufficient. Two obliques and a spot L5, S1 should have been performed. With the symptoms presented, a conservative regime should have been prescribed; and after a few days of observation, if the patient did not improve, orthopedic consultation obtained. This case was settled in favor of the plaintiff before any consulting depositions were requested.

27. Death Five Days After a Supine Cervical Rotary Adjustment

Indications on the January 8, 1979, operative report on John Doe were as follows:

This forty year old, right-handed male presented with severe posterior cervical and suboccipital pain of one week's duration of progressive nature. CT scan demonstrated the presence of a midline posterior fossa mass extending somewhat to the left. The patient was subsequently brought to surgery for emergency craniotomy because of rapidly deteriorating level of consciousness.

Mr. Doe had been adjusted on January 6 with a supine rotary maneuver. He died at 12 p.m. on January 11 following emergency surgery on the tenth.

Medical history

Mr. Doe was a 40-year-old, married, healthy defense worker. His medical history was of headaches, minor sinus problems, and upper-respiratory allergies. He was receiving allergy shots about once every 15 days. A medical physical examination including an EKG two years before had showed a normal heart and circulation.

Chiropractic consultation and treatment

Mr. Doe had visited his chiropractor intermittently during the past ten years for headaches and upper-back pain. He had been prescribed multiple vitamins and a liquid iron supplement for vague complaints of fatigue.

Plaintiff's wife's statements: On January 6, at 10:30 a.m., Mr. Doe and his wife entered the chiropractor's office.

According to Mrs. Doe's testimony after the chiropractor performed an adjustment Mr. Doe complained of dizziness, increased head pain, experienced ringing in his ears, blurriness of vision and lost his balance and vomited as he tried to sit up from the table. When he expressed the desire to adjust Mr. Doe again, the latter said, "Don't touch me. I can't stand it!" About 2:00 p.m. the chiropractor tried acupuncture inserting one needle in the left foot and one in the left hand. His condition did not improve and the chiropractor suggested that Mr. Palmer be taken home to rest. There was never any suggestion that emergency medical care was needed.

At about 4:00 that afternoon Ms. Doe called her son to assist her in taking Mr. Doe to the car because of his difficulty in maneuvering his arms and legs. By the time he arrived home, he had stopped vomiting, but he still needed help to go to the bathroom as he was unable to grasp adequately with his hands to support himself. His condition worsened during the night and the following morning Ms. Doe called an ambulance and had her husband admitted to the local hospital.

Medical treatment

The medical work-up performed on Mr. Doe after his admission to the hospital did not reveal any significant medical conditions except his obvious brain or spinal cord problem. Neck X-rays were read as

normal with no misalignments in the cervical region. His examination on January 7 elicited the following remarks:

IMPRESSION:

1. Rule-out posterior fossa mass.
2. Rule-out encephalitis.

PLANS & ASSESSMENT:

The patient will have additional diagnostic studies this evening, including a CT scan, chest x-ray, cardiogram, and will be scheduled for an EEG in the morning. The exact etiology of this process is not certain; however, the rapidity of onset, and the fact that, not previously mentioned, the headache is located on the left side with a right hemiparesis would suggest the possibility of herpes encephalitis. The consideration of a posterior fossa mass must be maintained, however, in view of the history of sudden onset of disequilibrium.

After one evening in the hospital, Mr. Doe's condition continued to deteriorate and an emergency craniotomy was scheduled to explore a suspected cerebellar infarction. It was unsuccessful, and the necropsy report concluded as follows:

Following surgery he could follow simple commands for a short time, but then later on in the evening, he became unresponsive, and by the following morning his pupils were dilated and nonreactive. Two successive EEGs showed no electrical activity, and the patient expired on January 11, 1979. The cause of death in this individual is attributed to an acute infarction involving the medulla oblongata and mid-line cerebellum. No anatomic cause for this can be demonstrated and there are no identifiable vascular abnormalities. . . .

Alleged malpractice

The plaintiff's counsel asked the author to review the chiropractic and medical records and to give an opinion as to the cause of death. It was the author's opinion that excessive force was used when the supine rotary adjustment was given and that following the initial post-adjustment reactions the chiropractor should have called for an ambulance. Although in this state chiropractic acupuncture and prescription of vitamins were legal, acupuncture was not the proper treatment for the post-adjustment symptoms experienced by Mr. Doe. The author's report concluded with the following:

A person who is in pain, disoriented and confused does not have the responsibility to decide whether to go home or go to the hospital. The symptoms presented by Mr. Doe left no question as to the defendant's responsibility. The failure to make arrangements for immediate emergency care following the initial adjustment on the morning of Jan 6, 1979 constituted gross negligence, but it is probably inaccurate to ascribe it simply to callousness. I believe the indoctrination of chiropractic philosophy coupled with the isolation of the chiropractor as a medical minority led to his tragic conclusion to attempt to re-adjust the patient and avoid seeking medical care.

Defendant's presentation of facts

It was the defendant's position throughout his depositions that he did not administer any adjustments to Mr. Doe but used only cervical muscle massage and acupuncture to balance the muscles of the neck and thus realign the vertebrae. The facts presented to the author, including the statements of Ms. Palmer and the medical evidence, readily dispose of this argument.

Discussion and summary

The medical physicians did not find any vascular or other developmental or traumatically induced abnormalities of the vertebral arteries to cause the symptoms and death. However, it would have been wise

and possibly helpful for the chiropractor to have performed pre-adjustive neurovascular tests of the neck region to determine if any obvious vertebral artery malformations or functional deficiencies were present.

Discussion and summary

The medical physicians did not find any vascular or other developmental or traumatically induced abnormalities of the vertebral arteries to cause the symptoms and death. However, it would have been wise and possibly helpful for the chiropractor to have performed pre-adjustive neurovascular tests of the neck region to determine if any obvious vertebral artery malformations or functional deficiencies were present.

The physicians testified that the sequence of events, with the adjustments on January 6 and the severe reactions that day and the following day, pointed to the cervical manipulations as the sole cause of the ensuing problems. In addition, it was their opinion that emergency care following the first adjustment would have given Mr. Doe at least a 60 percent change of surviving with minimal permanent impairment.

Conclusion:

It is not a normal reaction for a patient to vomit and experience brainstem-related symptoms following an adjustive procedure. And certainly, the failure to seek medical help in this case stretches the comprehension of a prudent man beyond the breaking point.

It was the author's concluding opinion that the failure of the chiropractor to follow a proper standard of care in the areas of examination, adjustive treatment, and referral were the ultimate cause of Mr. Doe's death. The defense did not offer a substantial argument in this case and it was settled in favor of the plaintiff's estate.

28. Prone-Position Adjustive Trauma to Post Surgical Fusion

Jack Doe, a 45-year-old auto mechanic, experienced severe pain after lifting his tool box from his car. He consulted a chiropractor that same morning. Six years prior to this incident he had had a laminectomy and surgical fusion at L4-L5-S1, followed three years later by a cervical neck fusion for a disc injury at C5-C6.

Medical history

Despite two spinal operations, Mr. Doe had experienced very few previous problems with his back. As was evident from the chiropractic X-rays reviewed by the author, the procedure used in Mr. Doe's lower-back operation entailed the implantation of metallic screws to stabilize the fusion. Other than that, his medical history was unremarkable, and under normal circumstances he would most likely have recovered rapidly from this apparent ligament sprain.

Chiropractic consultation and treatment

The chiropractic records include a thorough history describing the prior surgery and an entrance complaint of "low back pain—severe sciatic radiations, and tenderness over the left trajectory." The records indicate that in the past the patient had used muscle relaxants and pain pills, but that he had not had any recent medical care for his back.

The physical and orthopedic examination was thorough and involved the standard tests for complaints of this type. There were numerous positive tests, including the straight-leg raising, Lasegue's, and jugular compression, strongly suggesting a lumbar disc compression-protrusion syndrome. There were some interesting notations that had been scratched out and changed at the top of the examination form under "posture" and "gait." The records further showed that two lumbar X-rays were taken, an A-P and a lateral, which were of diagnostic quality and indicated a prior surgical procedure by presence of the metallic screws in the lower-back region. There was a clear notation on the X-ray analysis of "No lumbar

manipulation.” It was the plaintiff’s allegation that he was definitely manipulated, and it was thought by plaintiff’s counsel that the records might have been altered after the complaint was filed.

Mr. Doe related to his counsel that following his examination he was placed face down on a padded table. The chiropractor stood over his lower back and pushed twice rapidly on an area near his waistline. Following the first thrust he experienced some pain, and after the second thrust he stated that the pain was excruciating and that he had trouble “catching [his] breath.” After he recovered from the shock, Mr. Doe told the chiropractor that he could not move from the table. An ambulance was called and he was transported to a hospital for orthopedic evaluation. He spent about 14 days in the hospital under a conservative regime and was released under the care of his family doctor apparently without permanent disability.

Treatment records show that the patient was present at the chiropractor’s for one visit. It is noted at the top of the sheet that the patient was given muscle massage and prescribed ice packs and rest; there was a notation that no manipulation was performed.

Alleged malpractice

It was alleged in the complaint for damages that the chiropractor was negligent in not properly evaluating the post-surgical condition of Mr. Doe’s lower back, and that he in fact did and should not have performed any forceful lower-back adjustments. The defense called a chiropractic expert who testified that the prone adjustment administered by the defendant was directed at the sacroiliac joint only, and was performed in such a manner that it would not have disturbed the L4-L5-S1 articulations even if it had been a forceful thrust. This is difficult to believe: as anyone who has even briefly studied the structures and kinetics of the lower back understands that it would be virtually impossible to move the sacrum in relation to the ilium without influencing the L5-S1 and most likely the L4-L5 articulations.

Summary and discussion

It is the author’s opinion that the examination was properly performed and that the X-rays would have been sufficient for guidance in the prescription of conservative care; but according to the facts presented, additional X-rays were necessary for evaluation of the condition. This is another case in which definite signs were obtained but ignored. Of course, there was disagreement over what treatment was actually performed, including the question of whether the treatment records were altered after the complaint was filed.

Proper treatment in this case would have been bed rest with ice applied over the area, pelvic traction, and the fitting of a lumbar support to decrease movement of the sprained tissues. This case was settled in favor of the plaintiff.

29. Triple Bypass Surgery Following a Six-Week Holistic Chiropractic Regimen

Arthur Rand had been experiencing intermittent chest pain over a three-year period and had been treated by his family doctor with unspecific medicines. After an extremely painful episode of left chest pain, he was encouraged by his minister to attend evening healing services in an attempt to relieve the “spiritual blocking” of his heart. After two to three weeks of prayer and healing rituals, which consisted of fellow parishioners embracing him and placing their hands on his back, chest, and neck, the pain persisted and he consulted a holistic chiropractor who was a member of his church.

Medical history

At the age of 56, and without significant hereditary indications of coronary problems, Mr. Rand could expect to live quite a few more years under proper medical guidance with control of his excessive weight and proper exercise. He had never been hospitalized before the onset of his coronary problems, and his medical history, except for the intermittent chest pain, was unremarkable.

Chiropractic consultation and treatment

According to his deposition, the chiropractor who examined Mr. Rand had attended classes sponsored by his association in cardiac care. He testified that at the time Mr. Rand consulted him he felt that he was qualified as a chiropractic cardiologist. He performed a phonocardiogram, routine chest and heart examinations, chest X-ray, X-rays of the cervical and thoracic spine, and various orthopedic and neurological tests. He also sent specimens to a laboratory for comprehensive blood profile and routine urinalysis, including testing for triglyceride levels in the blood.

After a three-day evaluation, the chiropractor sat down with Mr. Rand and his wife. He explained that he believed there were indications on the cardiogram of "moderate cardiac insufficiency." He said that the thorough regimen he was going to prescribe would be successful in reducing the chest pain and would enable the patient to continue his work as a civil engineer. The program that the chiropractor outlined and presented to the couple included spinal adjustment; 1500 units of vitamin E daily with other supplements, including a B-complex and poly-mineral formula; and a low-fat diet with a specific program to lose 43 pounds. The chiropractor referred Mr. Rand to a local health club for weight-loss supervision and daily workouts on an exercycle to improve his general circulation.

After the first two weeks of the program, Mr. Rand was somewhat apprehensive because his chest pain increased in intensity and distracted him as he went about his daily work. He returned to his minister for counseling, and was encouraged to keep to the "natural way" and to increase his prayer efforts with his wife and family. After six weeks, the patient collapsed at work, and was hospitalized. He ultimately underwent triple bypass surgery to correct deficiencies in his coronary arteries.

Plaintiff's presentation of facts and his medical expert's opinions

Mr. Rand told his attorney that he believed in the practitioner because of the thorough examination and because his minister expressed complete faith in the natural methods he practiced. His apprehension was not strong enough for him to disregard his minister and return to his medical doctor for care. After his collapse and the subsequent surgery, however, Mr. Rand became very angry about the treatment he had received.

The plaintiff's counsel consulted a psychologist to review the case records, and to explore if religious brainwashing had influenced Mr. Rand's judgment about his health problems. It was the psychologist's opinion that the patient was a victim of his own wishes to avoid medical care and to submit to the chiropractor's authority, which was enhanced by the medical/clinical atmosphere of his office and the thorough examination. He also suggested that the patient was a victim of his minister, who ventured outside his scope of spiritual counseling to advice in an area in which he was not qualified. The psychologist stated that both practitioner and minister parlayed Mr. Rand's fear of orthodox medicine into an unsuspecting, largely uncritical faith in themselves which nearly led to his demise. He testified that the atmosphere of the clinic and the church's healing sessions worked against the patient's objective perception of his condition to the point that he followed an unproven, unorthodox treatment program.

The author did not review any hospital or medical records in this case. The plaintiff's counsel told him that surgery was successful and that Mr. Rand was able to return to work later that year.

Alleged malpractice

It was his counsel's position that Mr. Rand was seduced into an examination and treatment program by both the chiropractor and the minister, who acted without proper training or knowledge. He accused the practitioner of the illegal practice of medicine. In addition, he alleged that the treatment prescribed was inappropriate for the symptoms and condition presented, according to the accepted standard of medical care in the local community. Counsel stated that under standard medical procedure Mr. Rand would have been examined by a medical cardiologist and given the opportunity for close medical supervision.

Defendant's presentation of facts

The defendant maintained that he was practicing what he had been taught in school and in postgraduate chiropractic classes, and that the symptoms presented were of a mild nature and within the scope of his conservative care. He was able to introduce classroom notes, textbooks, and certification of having studied cardiology from his state association. In addition, he maintained that he did not promise Mr. Rand a cure nor present himself specifically as a chiropractic cardiologist.

This case went to trial and subsequent medical testimony, which the author did not have the privilege of reviewing, stated that the treatment offered was inappropriate and that Mr. Rand should have been examined by a medical cardiologist. The court ruled that the chiropractor was guilty of the illegal practice of medicine. The plaintiff received compensation for the pain and loss of work involved in the delay of proper treatment. The minister was dropped from the lawsuit.

Summary and discussion

It is important to carefully sift through the voluminous information presented in this case to reach the main issue. The chiropractor presented himself as qualified to diagnose and manage diseases of the heart. The sophisticated clinical atmosphere of his office and the battery of orthodox medical tests he conducted reinforced this image. In the eyes of the patient, and ultimately in the eyes of the court, the vitamins he prescribed became medicines, and the *D.C.* became an *M.D.*

There is confusion and continual debate within chiropractic organizations regarding the proper scope of practice. As a practical matter it is left to the individual chiropractor and his own interpretation of state law and disciplinary-board rules. However, officially his proper chiropractic standard of care in cases like Mr. Rand's is not to treat chest pain without medical supervision.

Summary

The verdict was in favor of the plaintiff.

30. Death of a Healthy 26-Year-Old Male Following Two Supine Cervical Adjustments

Paul Doe, a carpet layer, complained to his wife at breakfast that his neck was extremely stiff and that he had not slept well the night before. He decided that he would be unable to put in a productive day; so he called a local chiropractor and made a 10:30 appointment. He walked into the office healthy except for a nagging, painful neck problem. He left approximately seven hours later by ambulance, and died on the way to the Mayo Clinic.

Medical history

Mr. Doe's medical history included the usual childhood diseases. He had had no severe injuries and no surgery than a tonsillectomy at age nine. He had been treated earlier that year by his medical doctor for a neck condition; according to his wife's testimony he was given a prescription for muscle relaxants, but no other treatment was instituted.

Chiropractic consultation history and treatment

The chiropractor's case history on Mr. Doe was sufficient in that it ruled out the reasonable possibility of other conditions contributing to the neck symptoms. The history and examination forms included enough questions to provide a reasonable basis for diagnosis if the neck complaints were related to an upper-respiratory, chest, heart, or other medical condition. The examination, however, was not sufficient in that it was not comprehensive enough to rule out serious neurovascular or neurological problems of the neck and upper extremities.

There were notations that motion studies of the neck and Kemp's test were performed, but the remainder of the printed examination form was blank. The chiropractor took two cervical X-rays, an A-P

and a lateral, and proceeded to administer a supine rotary adjustment to Mr. Doe's neck. From the defendant's deposition and from Mr. Doe's statements to his wife, it was ascertained that immediately following this adjustment he became nauseated, dizzy, and unable to focus his eyes or raise his body from the adjusting table. The chiropractor then did some soft-tissue manipulation of the neck to relieve bilateral muscle spasms. He told Mr. Hutton to rest, and at about noon he and his wife (his receptionist) went for lunch, leaving Mr. Doe alone, lying on a cot.

The chiropractor and his wife returned from lunch at approximately 1:30 p.m. and he administered another supine rotary adjustment. Mr. Doe then became violently ill. It was now evident to the defendant that he had a medical emergency on his hands. His wife called a local osteopath, who gave Mr. Doe emergency care and called an ambulance.

Medical treatment and testimony

It was discovered during autopsy that Mr. Doe had suffered a massive disruption of both vertebral arteries. It was the opinion of consultant medical physicians that the supine rotary adjustments could have dislodged a latent vertebral artery thrombosis. They stated that if emergency medical care had been given following the first adjustment, the patient's life might have been saved. Regarding the cause of the vertebral artery problem, the plaintiff's medical witness concluded his report with the following:

I believe that in this case the manipulation was the sole, causative factor. The strongest clinical argument in this direction, which applies to all cases of this type, is the absence of pre-manipulation ischemic symptoms, the prompt occurrence of symptoms during the treatment, and the failure to demonstrate predisposing osseous or arterial abnormalities.

Alleged malpractice

Plaintiff's counsel alleged the following regarding the treatment of Paul Doe:

- A. The X-rays taken of the neck region were insufficient to arrive at a proper diagnosis and to rule out the possibility of significant osseous abnormalities.
- B. The examination was not sufficient for the symptoms, and specific pre-adjustment neurovascular tests should have been performed to determine if there were any vascular abnormalities in the neck region.
- C. That the supine rotary adjustments were given with excessive force and were the cause of the bilateral, massive, vertebral artery rupture and ultimate death.
- D. That obvious signs of the need for emergency medical care were ignored following the first adjustment and that emergency medical help should have been sought immediately.
- E. That it was improper care and abandonment of the patient when the chiropractor and his wife left for lunch, leaving Mr. Hutton entirely alone without medical observation.

Plaintiff's experts' opinions

Three chiropractic experts were consulted in this case. They were in general agreement on the following points:

- A. The examination and X-ray studies were inadequate.
- B. Emergency medical care should have been obtained immediately after the patient exhibited the abnormal symptoms following the first adjustment.
- C. The patient should not have been left alone at any time.

D. The afternoon adjustment should not have been performed.

E. The adjustive maneuvers were administered with excessive force and were the cause of the patient's death.

One of the plaintiff's chiropractic experts was a certified chiropractic roentgenologist, a faculty member at an approved, accredited chiropractic college. Portions of his deposition underscore the importance of a thorough history, examination, and testing before attempting any adjustment. When asked about blood clots in the area of the vertebral arteries, he answered as follows:

Q. As a matter of fact, blood clots in this region in particular are very unusual in young people, especially when there is no evidence of atherosclerosis in these arteries?

A. It is indeed.

The chiropractic roentgenologist, a specialist in radiologic procedures, stated that if clinical factors point to an underlying bone condition, a comprehensive X-ray study of the neck should of course be performed. He added, however, that a proper study could not be obtained if the neck were in extreme spasm, and that any forceful adjustive maneuvers should be deferred until X-rays were possible. A full set should then be taken, consisting of seven cervical views.

When asked by plaintiff's counsel if Mr. Hutton's post-adjustment symptoms were normal reactions to a properly performed cervical manipulation, his answer was no. Further questioning regarding the critical issue in this case elicited the following responses:

Q. All right. Now we're talking about clinical practice. If after the administration of treatment, a patient should evidence unusual symptoms such as dizziness, severe headache, nausea, vision changes or balance problems, it's standard chiropractic practice to immediately cease treatment and seek medical consultation, isn't it?

A. It is indeed.

Q. These symptoms are abnormal, are they not, for properly applied chiropractic treatment?

A. They are.

Q. And immediate emergency medical care is called for when these symptoms appear. Isn't that correct?

A. Yes.

One of the final questions of the plaintiff's counsel to the chiropractic roentgenologist emphasized the gross negligence demonstrated by the treating chiropractor:

Q. You're aware of the fact that the doctors at Mayo were quite critical of the fact that the chiropractor came back from lunch, and knowing these symptoms—these brain stem syndrome symptoms—went on and did postmanipulative care to this patient and that was when the patient. . . . [pause] That's when he died.

A. Yes.

Defendant's presentation of facts

The treating chiropractor stated that his X-rays were adequate for the symptoms presented, that his examination did not uncover any outstanding positive reactions to indicate additional X-rays, and that he did not administer any forceful adjustments.

Summary

This case was settled in favor of the plaintiff for the full amount of the policy.

31. Permanent Residual of a Disorganized Hip Joint and Damaged Acetabular Cavity

Susan Woodfolk's faith in her chiropractor was undaunted, even on the sixth visit when she had to be taken into the office in a wheelchair; whereas on her first visit she was able to walk in with a cane.

Her entrance complaints were of lower-back and left-hip pain of six weeks' duration. She experienced difficulty when sitting or attempting to walk in an erect posture. There was no pain radiating down the left leg. She could not recall any falls or blows to the lower back or hip regions.

The chiropractor made a diagnosis of "lumbar nerve-pressure syndrome" with the guidance of orthopedic tests and X-rays of the lumbar spine. A medical physician or orthopedist would immediately have ordered X-rays of the hip joints to check for any pathology. Ms. Woodfolk was placed in a side-posture position during six of her eight visits and was adjusted with a rotary maneuver. There was no claim that excessive force was used, and it was the plaintiff's testimony that she did not feel that the first few adjustments were harsh.

On her eighth visit Ms. Woodfolk was wheeled out by her husband in extreme pain and taken to the hospital. Upon entrance to the hospital, a full radiological work-up of the lower back and pelvis was ordered. The radiologist discovered a disorganized hip joint with extensive damage to the femoral head and acetabular cavity. Apparently Ms. Woodfolk, who later was diagnosed as having moderate osteoporosis in her spine and pelvis, had fallen or slipped and did not recall the incident. The fracture probably existed on her first visit to the chiropractor. The rotary adjustments had done extensive damage to the already-weakened structures.

The plaintiff's orthopedic witness testified that implanting a prosthesis or new ball-and-socket joint in the left hip was necessary because the spinal adjustments had interfered with proper healing of the bones. The patient recovered well and was able to ambulate without pain following the implantation of the prosthesis.

Summary and discussion

Chiropractic philosophy, with its emphasis on searching for spinal subluxations, often deters the clinician from looking beyond the spinal area for the causes of the complaints. When an individual limps into the office, one can only assume that the tissues in the area involved are swollen and irritated, and should not be subjected to further pressure by any active adjusting until the acute phase has passed and the cause of the condition has been discovered.

The chiropractor offered a weak defense. He claimed that after her second visit, he had instructed Ms. Woodfolk to see her medical doctor. There were no notations in his records regarding this, and both the plaintiff and her husband denied it. Again, it is not the responsibility of the patient to decide what diagnostic procedures or treatments are proper, and this responsibility cannot be passed off on the patient as an excuse for haphazard clinical evaluations or negligence on the part of the clinician. This case was settled in favor of the plaintiff after it was established by the author's affidavit that the standard of care, diagnostic work-up and treating procedures for an acute condition was improper.

32. Eight Fatalities Related to Amebiasis Resulting from Colonic Irrigation Therapy

The use of colonic irrigation is legal and allowed by chiropractic licensing boards in some states. In the state where this case occurred it is normal and standard procedure for chiropractors to use many holistic methods including colon therapy.

The health department investigating this case discovered that the use of unsterile equipment had caused an outbreak of amebiasis. Seventeen cases were confirmed by biopsy and serologic tests. Eight were fatal, and all patients had received colonic irrigations at one chiropractic clinic. This was the first time that this particular mode of transmission had been documented. The health department warned the state chiropractic board, and they formulated new rules and disciplinary measures for sterilization of colonic equipment.

It should be obvious that sloppy invasive procedures leave the chiropractor in an indefensible position when a patient is injured. The author was not informed of the outcome of the lawsuit and was not asked to give an affidavit or deposition.

Summary and discussion

The rule to draw from this case is a familiar one. The chiropractor who chooses to enter the medical realm of treatment tacitly accepts all the responsibilities incumbent upon orthodox physicians. That is, when one professes competency in a certain treatment for which there is a standard among medical physicians, the highest standard of care for that particular procedure must be adhered to. Technically, in this case, administering colonic irrigation for intestinal complaints would be considered the practice of medicine; however, in certain states the chiropractic statutes are unclear and allow practitioners to perform many "medical" procedures.

33. Cervical Myelopathy and Quadriplegia Following an Industrial Injury and Chiropractic Care

Harry Doe, a 52-year-old modular housing carpenter, had received many minor muscle injuries during his 18-year career. He had been treated by his medical physician for various strains and sprains, but had not been hospitalized prior to seeking chiropractic care for the first time on May 6, 1971. On August 19, 1971, he was operated on for cervical decompression, and approximately one year later was almost a quadriplegic, able to get around only with extreme difficulty.

Chiropractic consultation and treatment

Dr. Herman Wolfe's initial history listed Mr. Doe's complaints as follows:

1½ years of pain in low back—across both sides, numbness and weakness in legs (both), occasional pain between shoulders, numbness and tingling in both hands, ulcer pain 5–7 years.

The examination included routine orthopedic and neurological tests related to the cervical and lumbar regions of the spine and a very specific line-drawing analysis of cervical subluxations on three X-rays. There was a notation on the examination sheet of "electrical shocks extending into the arms and legs." The upper and lower spinal reflexes were apparently checked, but there were no numerical records of the degree of response, just a check mark by each of the specific neurological levels. The X-ray analysis indicated subluxations in the neck and upper back with a right posterior/inferior subluxation of L5 and the sacrum.

The treatment record, which extended from May to August 10, 1971, showed that adjustments were made to C1 and C2, C6 and L5-S1. According to the notes, Mr. Doe was progressing satisfactorily until July 10, when he reported that a 50-pound door had fallen on his head. The treatment record indicates

that additional cervical X-rays were taken on that date and that a state industrial accident claim form was completed. Mr. Doe was not able to work from that day forward.

Medical treatment

Mr. Doe consulted his family doctor on July 12 but did not mention his arm, leg, or spinal complaints. The medical record showed that he presented with a right knee problem and did not mention the arm at all. The author did not see records of what treatment was administered for the knee condition.

On August 16, after approximately three months of chiropractic care, Mr. Horner was admitted to the hospital with nearly total quadriplegia. An excerpt from the discharge summary is as follows:

Mr. Doe is a 52-year old man who was admitted to General Hospital on 8/16/71, with a nearly total quadriplegia. Myelography demonstrated a large defect at the mid cervical level. Mr. Doe was taken to surgery on 8/19/71, where a laminectomy was performed from C-3 through 6, with removal of hypertrophied ligamentum flavum and he was noted to have moderately severe spondylosis plus a large central extruded disc at C-4,5. This was removed. Postoperatively Mr. Doe has made a good recovery with gradually increasing strength. He began ambulating about 8/31. His strength has progressively increased and he is now able to walk some without a crutch. He continues in physiotherapy and on discharge he will continue to get help through the Physical Therapy Department at General Hospital on a once a day basis. He continues to have a moderately spastic gait and he may not make a complete recovery to normal muscle tone.

Plaintiff's medical expert's opinion

Dr. James S. Jones, a medical consultant retained by the plaintiff, gave the following opinions:

To: Mr. Joseph Howard

From: James S. Jones, M.D.

. . . 1. Mr. Doe had a severe cervical myelopathy from cervical spinal cord compression. This was a problem requiring neurosurgical treatment. The progression of the weakness and the severity of this disorder indicated the need for prompt medical attention.

2. The proper treatment for Mr. Doe's spinal cord compression was a surgical procedure to decompress the spinal cord.

3. Moving and manipulation of the spine in the presence of this progressing spinal cord compression is absolutely contra-indicated in my opinion.

4. Manipulations of this patient's neck in the presence of the condition indicated above probably aggravated the patient's condition. In any event, the delay in getting this patient into medical hands for proper treatment unquestionably contributed to increased neurological damage. It was reported to me by Mr. and Mrs. Doe and noted in my State Special Examination of March 29, 1972, that a chiropractor encouraged the Does not to seek medical attention during the period of his progressing disability.

Postoperative consulting examinations

Following a stormy postsurgical course, Mr. Doe was examined on March 29, 1972. The medical specialist indicated that he would not be able to return to work and that his prognosis was not very positive. Some of his conclusions were as follows:

Examination: Neurologic re-examination at this time reveals a marked spasticity of the lower extremities with sustained clonus on the right and unsustained clonus on the left. There is some

diminution of vibratory sense distally although this is very minimal. He has good position sense in the big toe. There is a probably positive Babinski response in the right and an equivocal response in the left. Mr. Doe is able to get around with a cane. Examination of the upper extremities reveals hyper-flexia and there is weakness of wrist extension. There is a well healed cervical scar. Mr. Horner's gait, without the cane, is spastic and slow, although he can navigate for short distances without this.

Cranial nerve examination shows some high tone hearing loss and some reported tinnitus on the right. No other cranial nerve abnormalities are noted. There is no evidence of increased intracranial pressure on fundusoscopic examination.

In summarizing, Mr. Doe has a spastic weakness of a cervical myelopathy which was the result of a cervical spinal cord compression from protruded disc. He has made a good recovery in that he is now able to be around on his feet, but I do not believe that he is going to be able to return to work. I would consider this a permanent total disability from the standpoint of labor force function and would suggest that he be given a pension.

Alleged malpractice

The plaintiff's counsel alleged that Dr. Doe as a primary-care practitioner failed to provide a proper standard of care. This, he argued, would have included additional X-ray studies, neurological referral, and halting the adjustive treatment until a neurological opinion was obtained. It was his contention that Mr. Doe was led to believe that his symptoms were amenable to spinal adjustment and that it was not necessary for him to consult any other health-care practitioner.

Defendant's presentation of facts

Dr. Wolfe maintained throughout his depositions that his care was appropriate, and that the patient did not express concern about his arms, legs, or back when he consulted his medical physician following the July 10 injury. He also suggested that the patient's ulcer medication and admitted excessive drinking could have masked the spinal-cord symptoms and induced a loss of voluntary muscle control. The chiropractor further stated that these drugs could have produced the symptoms and led the surgeon to believe that an operation was necessary.

It is evident from Dr. Wolfe's deposition that he did not believe that any of the patient's symptoms or his worsening condition called for additional diagnostic procedures or medical care. His records indicate that Mr. Horner's last visit was on August 10, and that on August 16 he was admitted to the hospital on his own initiative.

Superior court decision

In a summary judgment, a superior court held that it was the responsibility not of Dr. Wolfe, but of Mr. Doe to seek medical care if he desired it. The defendant argued that it was not his responsibility to direct the patient to a medical doctor; and that if Mr. Horner was concerned about his condition, it was his prerogative to obtain a medical opinion. The chiropractor further asserted that even if referral was his responsibility, the patient's failure to mention such complaints to his physician at a self-initiated appointment relieved the defendant of the duty to make further efforts.

An appeal was filed utilizing two of the author's three affidavits, which included the following:

RE: Case No. 12345
Doe v. Jones
December 3, 1977

Peter J. Modde, D.C., being first duly sworn on oath, desposes and says: I am a licensed chiropractor practicing at the Valley Chiropractic Clinic, 10909 S.E. 176th, Renton, Washington

98055, since 1970. My license is active and has been maintained since 1970, in the State of Washington.

Primary Care Status of Chiropractors in the State of Maine: A licensed chiropractor in the State of Maine is considered a primary care provider and is licensed to receive and care for people with ailments on a first contact basis. This is, the chiropractic licensing board rules and the state statute regulating the practice of chiropractic clearly pronounces the chiropractor as responsible for primary health care including differential diagnosis to classify a patient for conservative care or medical referral.

Standard Accepted Clinical Chiropractic Procedure: The standard accepted procedure for a chiropractor in Maine is to take a comprehensive medical history, to perform physical, orthopedic, neurological, x-ray, and laboratory screening examinations in order to arrive at a diagnosis and possible treatment regimen or medical referral. It is acceptable by the Maine Chiropractic Licensing Board that a chiropractor is qualified, and in fact, has the responsibility to do the above prior to administering any treatment.

The chiropractic treatment of Harry Doe referred to in the above case was not within the accepted, normal standard of practice for licensed chiropractors in the State of Maine. After an examination of the record, it is evident to me that given the history and symptoms of this individual, that a thorough neurological and orthopedic medical examination should have been performed after preliminary chiropractic screening tests. The symptoms listed in the record clearly indicated a severe cervical injury which should have received immediate medical intervention. The administration of any type of spinal manipulation in this particular case would not be indicated and would not be in the best interests of the patient. The delay in deciding to have this patient examined medically, in my opinion, contributed significantly to his ultimate disability.

This was not considered sufficient, and the author was asked to review in detail the defendant's deposition. From these records he gave a supplemental affidavit, an excerpt of which appears below:

**RE: Case No. 316431
Horner v. Jones
December 22, 1977**

. . . In arriving at my opinion that the chiropractic treatment of Harry Doe was not within proper standards of care for chiropractors in the State of Maine and the community in which he was treated I have relied on certain records that I have reviewed. Without specifically enumerating all parts of all depositions and other records, from the deposition of Dr. Wolfe, the following excerpts regarding the history and examination were considered together with others by me in reaching my opinion that the care afforded to Harry Doe was not proper:

On page 14 of the [defendant's] deposition Harry Doe's entrance complaints on May 6, 1971, were given in part as (lines 11-16):

One and a half years of pain in the low back across both sides. Numbness and tingling—pardon me, numbness and weakness in the legs, both. Occasional pain between the shoulders. Stomach ulcers with pain for five to ten years; presently on medication. Numbness and tingling in both hands for a period of about five weeks.

With regard to the examination and treatment, the following appears in the defendant's deposition, on page 48 (lines 1-7).

I found [from] my flexion test of the neck motions that forward flexion was essentially normal; that left and right lateral flexion was restricted by 70 per cent; that extension was restricted by 40

percent; and extreme extension elicited electrical shocks in his arms and his legs; that the rotation of the neck was restricted 50 per cent both left and right.

On page 49 of the same deposition (lines 13–17), and on page 50 (line 2) Dr. Wolfe refers to “electrical shocks” and makes the statement:

I didn’t have to compress it on him because when he extended, he already got elicitation.

In response to the question “What was meant by elicitation?” he answered:

Well, he got the electrical shocks in his arms and legs.

In addition, on page 75 of the deposition (lines 13–15), the following appears:

On 6/15, I adjusted him below the neck. At this time I made a notation that he [has been] getting shocks throughout the body when he coughs since 6/12/1971.

On page 84 of the deposition of Dr. Wolfe, it was indicated that he took three x-rays of the cervical spine on July 10, 1971, following the injury of July 9, 1971, during which some doors fell and hit Mr. Doe on his head, knocking him down. A routine, standard x-ray examination for an injury of this type would include A-P lateral, open mouth odontoid, flexion and extension views and left and right oblique views.

It is indicated in the deposition on page 55 (lines 7–13), that the cervical x-rays indicated “advanced pathology of a chronic nature.” Also on page 85 of the deposition there is another statement regarding x-ray findings:

There is a very marked narrowing of the C3 C4 interspace. (lines 19–20)

There is a marked decrease of the interspace between C-5 and C-6, and some very large hypertrophic changes on the bodies of C-3, C-4, C-5, C-6, and minimal on C-7. (lines 22–25)

In addition, on page 86 (lines 3–8) in answer to a question regarding the narrowing of the spaces between C-3 and C-4 and C-5 and C-6 is the following:

It indicates that the disc isn’t very good. It’s degenerative. These are degenerative changes, a pathology that’s set in here of a chronic nature.

The marked narrowing of the cervical interspaces and hypertrophic changes on the vertebral bodies indicate prior injury to the area and a predisposition or weakness to further insult or injury.

On page 86 of the deposition, in answer to the following question:

You are trained to detect pathology in spinal processes, aren’t you? (lines 8–9)

Dr Wolfe’s answer was:

We are taught basic spinal pathologies.

Further, on page 87 (lines 17–23), in answer to the question regarding the differentiation of a medical problem from a chiropractic problem, Dr. Wolfe stated the following:

I am trained to analyze the spine to determine if there’s subluxations, if there’s nerve involvement relative to those subluxations and to see if there’s any gross pathologies or injuries that

would be of a nature that I couldn't take care of. And if I can't take care of it, then I am to refer it out to someone who is competent in those areas.

Dr. Wolfe was asked on page 59 if he had referred Mr. Doe to a medical practitioner following the injury of July 9, 1971. The answer on line 13 was "No." The reason given, on line 21 of that page was:

There was no acuteness in that situation to refer him out for further help until I had done my job as a chiropractor, reduced the subluxations. He had been a medical patient all his life before he came to me.

I have reviewed the affidavit of Harry Doe recently prepared and the same is incorporated herein as if fully set forth.

I am relying on the above facts and other facts and records, all of which indicate to me that Harry Doe did not receive a proper diagnostic workup from the chiropractor involved in his treatment and he should have been referred for immediate neurological consultation and treatment.

Appellate court decision

The appellate court issued the following opinion in its evaluation of the petition for reversal of the superior court ruling:

Physicians and Surgeons—Chiropractors—Malpractice—Standard of Care—Referral to Physician. In the diagnosis and treatment of patients, a chiropractor is held to the standard of care of a reasonable chiropractor in the same circumstances. Even though his treatment is within statutory licensing limitations, a chiropractor may be held liable for failure to use reasonable care to cease treatment when chiropractic procedures become useless or harmful or for failure to refer a patient whose condition is amenable only to medical treatment to a medical doctor.

Their conclusion was as follows:

The Court of Appeals: Finding evidence in the record sufficient to raise genuine issues of material fact as to whether the chiropractic treatments aggravated the plaintiff's condition and whether the attending chiropractor should have realized that the symptoms presented a medical rather than a chiropractic problem and should have referred the plaintiff to a physician for further treatment, the Court reverses the summary judgment.

In reaching its decision, the appellate court examined the records before the trial court, affidavits, depositions, and medical records. The following is an excerpt from their discussion.

The motion for summary judgment was supported primarily by the affidavit and deposition of Dr. Wolfe in which he described at length his diagnosis and progression of treatment for Mr. Horner.

In opposition to the motion for summary judgment plaintiff submitted depositions of Drs. Wolfe, Martin and Alexander, and three affidavits by a licensed chiropractor, Dr. Peter J. Modde. Dr. Modde did not see plaintiff personally. In his first two affidavits Dr. Modde listed the standard chiropractic diagnosis procedures, stated that he had reviewed the depositions of the plaintiff, the defendants and the medical doctors who had diagnosed or treated plaintiff, and concluded that the symptoms described in the record indicated a severe cervical injury which should have received immediate medical treatment; that the chiropractor did not engage in a "proper diagnostic workup" and should have refrained from spinal manipulations. Although Dr. Modde's description of standard chiropractic procedures in his first two affidavits is in acceptable form, the general references to the depositions and records are insufficient under CR 56 (e) to refute a

motion for summary judgment. They do not set forth specific facts showing a genuine issue for trial.

Dr. Modde's third affidavit stands on firmer ground, however. In it he quotes several excerpts from the Wolfe affidavit regarding the symptoms Dr. Wolfe encountered and the treatment he followed. Dr. Modde specifically indicates that the three x-rays taken on July 10, 1971, were too limited, the narrowing of the cervical interspaces and the hypertrophic changes on the vertebrae indicated a "predisposition or weakness to further insult or injury," and that these facts before Dr. Wolfe warranted a different diagnostic workup and a referral for neurological examination. This affidavit contains specific facts pertaining to the alleged breach of Dr. Wolfe's duty to use proper diagnostic procedures in concluding whether the problem was chiropractic and not medical in nature, and if it was medical, to refrain from chiropractic treatment and refer the patient to a medical doctor.

Thus the appellate court ruled in favor of the plaintiff, and reversed the lower court ruling regarding the chiropractor's responsibility. Mr. Doe, who had become severely depressed following unsuccessful attempts at rehabilitation for his quadriplegia, died before the claim for damages could be brought to trial.

Discussion and summary

This is a very important case as it strikes a clear and final blow to the argument that a chiropractor can ignore symptoms and then claim that they are the responsibility of the patient and not of the primary-care physician.

The chiropractic treatment in this case was not unusual except that Mr. Doe was led to believe that his condition was amenable to Dr. Wolfe's care. To a responsible clinician who used reasonable judgment, his symptoms would have served as more than adequate warning that the condition was not treatable with spinal adjustments. After a thorough review of the records in this case, it is apparent to the author that there would not have been a strong basis for negligence had Dr. Wolfe referred the patient for neurological consultation after he reported increasing "electrical shocks" in his arms and legs (which indicated spinal cord symptoms). The chiropractor ignored these symptoms, and a pattern of neglect was instituted. As the appellate court clearly established, a reasonable standard of care would have been to recognize the severity of the symptoms and to immediately refer Mr. Doe to the appropriate health-care specialist.

34. Incense Burning and Chanting

This was the most brief and simple case in which the author has ever been involved. It took one minute to give an appropriate answer. It was an uneventful day in the office except for one phone call from a 37-year-old, self-proclaimed "religious lady." This slightly agitated woman had recently been treated by a chiropractor. Following the adjustment, the chiropractor stepped from the room and returned with a small candle and incense. He placed them near the adjusting table and began to stroke her spine while chanting. Except for this strange ritual, her care had been acceptable to her, and her question was whether this was normal procedure in the state of Washington. The author instructed his secretary to inform her that it was not, and that if she desired additional information on the matter to please write him a letter.

CONCLUSION

It is late 1983 and some chiropractors are still chanting over their patient's spines, assumedly to ward off evil and attract the forces of good to the nervous system beneath their hands. Others are busy giving cold laser "face lifts" as reported in *U.S. Today*, a national newspaper on Thursday, August 4, 1983. Part of the news release related the following:

"The Federal Trade Commission has ordered two Florida chiropractors to stop advertising claims that their laser treatment "reduced, smoothed out or removed facial lines, depressions and wrinkles."

A colleague from Oregon told me that a chiropractor has recently had his license suspended for performing a vasectomy. Other chiropractors across the country are involving themselves in various intrusions into medical practice. Many of these adventures are officially sanctioned by the liberal groups.

A little north of Florida, two Northern Virginia chiropractors are threatening legal action if their application to admit and treat patients to Alexandria Veterans Hospital is denied. The July-August, 1983 issue of the *American Chiropractor* gives a news digest of the ensuing encounter:

"Two Northern Virginia chiropractors, Dr. Alan L. Tannenbaum, Alexandria, and Dr. L. Richard Vaitsas, Winchester, are threatening legal action if their request to admit and treat patients to Alexandria (VA) Hospital is denied. The doctors' applications have been opposed by a committee of Alexandria Hospital medical doctors. According to a hospital spokesman, Drs. Tannenbaum and Vaitsas maintain that medical doctors do not understand chiropractic treatment and could not supervise its application. "When a patient goes to a hospital, he should have a choice of the type of doctor he sees and the type of service he receives," contends Dr. Tannenbaum.¹ The two chiropractors were questioned about their training and medical philosophies by the Alexandria Board of Directors during a four-hour meeting in late May, 1983. A date has not been set for their decision."²

13.1 The Future of Chiropractic

In the 20th-anniversary issue of the *ACA Journal of Chiropractic* (January 1983), the general outlook for the profession for the next 20 years is positive and the articles reflect confidence in the progression of chiropractic toward acceptance by the public and the medical profession. Despite this optimism, Kenneth Padgett, D.C., ACA vice president, views the path ahead as not easy and requiring some healing from within: "Thus, as we look out and assess the path we have covered and the route we have yet to plot, it becomes evident that we must learn to deal with ourselves."³

Reed C. Phillips, a chiropractor with an M.S. in community medicine from the University of Utah College of Medicine, gives his view on the future of chiropractic in the September–October 1983 issue of *American Chiropractor*. He concludes by responding to the question, "What would you like to see happen in the future of chiropractic education?"

The future of health care will be one of the multidisciplinary approach. The complexities of caring for human ailments is too great for a single discipline to encompass. The future educational process should place all health care disciplines on a parity basis and provide a single curriculum for the first two or three years of training. This training should include all necessary information in the basic sciences and general clinical sciences. Upon satisfactory completion of this training, the individual may then elect to pursue training in whatever specialty area desired, be it chiropractic, orthopedics, or whatever. . . .

Integrated health [care] by a multiplicity of health care disciplines will be the health care model of the future that will reduce cost and increase patient satisfaction and patient outcomes. Chiropractic must seek to become an integrated member of the future health care team.⁴

At present, however, despite expanding medical education, chiropractors are not only not equipped to assume the role of primary health-care provider; but also the profession is still split over whether they should do so. Near the close of 1983, there is a deep, polarized division between the straights and the mixers across the United States. The national associations' agreement on the scope of practice is merely ostensible. Most states still have two opposing professional associations that aggressively pursue their ideas through legislation. Ronald Sibson, a chiropractor and president of the ACA Council on Diagnosis and Internal Disorders, writes regarding scope of practice in a recent *ACA Journal of Chiropractic*

It is quite evident that we still have two philosophies that have developed during these many years, and as a result of their constant differences, have impeded the unity our profession is so much in need of. The recent California legislation that attempted to limit scope of practice in that state is an example of one group's effort to restrict others' rights to practice as the present law indicates. . . .⁵

Sibson admits that chiropractors have made some progress, but states that efforts from within to limit scope of practice leaves a doubt in his mind as to the future of the profession:

So if one is looking at what degree of progress we are making in our years as a profession, it leaves some doubt in my mind as to our future. What is deplorable is the fact that some chiropractic groups are enlisting the help of organized medicine to legislate their limited concepts. This approach will eventually lead to the level of a physiotherapist or less. . . .⁶

13.2 Chiropractic Research

Stephen B. Schram, Ph.D., writing in *Today's Chiropractor* on "Measuring the Neurological Effects of Adjustments," says:

While field evidence clearly supports the concept of aberrant function associated with spinal misalignments, hard scientific experiments have not yet shown that nerve interference exists.⁷

He offers a basic challenge to all chiropractic researchers and concludes with the following admonition: “. . . If one ever hopes to demonstrate the effects of chiropractic on a scientific level, one must be able to measure them.”⁸

There is some chiropractic research taking place, but it is difficult to ascertain any findings that support Daniel David Palmer's theories. The most notable project is at the University of Colorado at Boulder, under the auspices of a Dr. Chung-Ha Suh of the department of engineering and design. It appears to involve the use of computers in a scientific analysis of spinal dynamics and the effects of the chiropractic subluxation. Several papers have been published and are available from Dr. Suh. Another interesting project initiated by the Swedish government compares the effectiveness of chiropractic with orthopedic treatment for 600 sufferers of spinal problems.

In a recent issue of *American Chiropractor*, Robert T. Anderson, Ph.D., discusses difficulties involved in conducting blind studies to prove the effectiveness of chiropractic adjustments. He asserts that it is much simpler to do a double-blind test on a new medication than on spinal adjustments:

Chiropractic constitutes a complex process of analysis and treatment in which the doctor inevitably cannot be blinded in ministering to the patient. (It is possible, however, to blind a second doctor who undertakes the post-treatment evaluation.) It is also very difficult to blind the patient. Naive patients may not know the difference between a true adjustment and a placebo “laying on of hands,” but then one may question whether the placebo itself has not inadvertently approximated the effect of an adjustment.⁹

13.3 Chiropractic Medicine

Since the advent of CCE the federally recognized accrediting agency, chiropractic education has been consistently improving, with more courses to prepare graduates for a primary health-care role within the total health-care system. Of course, liberals are already attempting to function in many ways as medical physicians.

There are a plethora of advertisements in professional chiropractic journals expounding on the benefits of various medical therapies as adjuncts to spinal adjustment in the treatment of many diseases. It is evident that prescribing “medicine-like” substances is a popular practice in the mixer segment of the profession. Many chiropractors are “specializing” in medical areas such as sports injuries, radiology, weight control, orthopedics, and neurology: and as “chiropractic internists” and “chiropractic pediatricians.” Conservatives naturally view this as a threat to chiropractic as a separate, distinct practice.

The more important point, however, is that all of these things, along with other signs such as the formation of a council for diagnosis and internal disorders within the ACA, strongly suggest that a double standard of medical care is in fact a functioning reality.

13.4 Chiropractic & hospitals

Education will remedy these problems, say many distinguished chiropractors.

But education may not be enough, Dr. Cecil Collins, President of the Tennessee Chiropractic State Association, was quoted in *American Chiropractor*, September–October 1983, on a problem that manifests a deep dilemma within the profession:

Dr. Cecil Collins . . . recently stated that he has high hopes that a law will be passed in the next session of the Tennessee legislature allowing chiropractors to utilize the state's medical laboratories. "We need to be able to send our patients to a medical laboratory for blood analysis. The law requires us to make an accurate diagnosis, but it does not allow us the opportunity to do so. We want equal parity to practice on the same basis they [MDs] do. . . ."¹⁰

The push to be admitted to hospitals is part of the chiropractic struggle to achieve parity with medical physicians. Similar actions are occurring in several other states.

Chiropractors can practice in chiropractic hospitals. Spears Chiropractic Hospital in Denver, Colorado, which recently celebrated its 40th anniversary, is described in a promotional brochure as the leading non-allopathic health-care institution in the world.

This hospital has been in Denver, Colorado, for 40 years, its corporate foundation for 62 years, and we are still very much a pioneer in conservative health care, i.e. nonallopathic hospital care. It is as unheard of now as it was when this hospital was first built. So we are still pioneer . . . in no small measure.¹¹

Founded in 1943 by Leo Spears, a Palmer College graduate, the hospital claims cures for many diagnosed medical conditions that have failed to respond to orthodox medical care.

The Beno case in Michigan (see p. xxx) epitomizes the "Catch-22" regarding primary care that afflicts chiropractors and their patients across the United States. Chiropractors have the legal responsibility to make a diagnosis as first-contact health-care providers, but often are legally barred from using the requisite medical procedures. The arguments of the conservatives and allied medical physicians are that these testing procedures are technically the practice of medicine, and the chiropractor's education does not qualify him for an M.D. degree.

Despite years of medical opposition and internal strife, chiropractors have firmly established themselves in the treatment of structural spinal problems and presurgical disc conditions. Several studies show that chiropractic care costs less for such disorders than comparable medical care and that workmen consistently return to work faster than under medical care for equivalent conditions (see p. xxx). Nevertheless, the chiropractor whose philosophy teaches that most health problems are due to spinal misalignments leaves himself and his patients in a dangerous position.

As responsible primary-care practitioners, chiropractors must insist that the patient receive a qualified medical diagnosis and seriously examine urges to rush in and adjust a patient with an acute condition when a simple prescription of bed rest is mandated. In addition, the profession is long overdue in discarding supine rotary cervical adjustments and forceful rotary lumbar adjustments that can maim and kill. Despite all obstacles, Gerald M. Brassard, D.C., an executive vice president of ACA, is positive that the chiropractic profession will ultimately gain equity and parity with the medical profession. In an open letter announcing the 20th anniversary of the *ACA Journal of Chiropractic*, he says:

While chiropractic's path has not been an easy one, nor will the future be void of obstacles, the American Chiropractic Association is confident that chiropractic will gain full parity with the other health care disciplines and attain complete recognition—so long as we band together with a common purpose in mind.²

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APPENDIX I

CHIROPRACTIC RESEARCH

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Proceedings of the ANNUAL BIOMECHANICS CONFERENCE ON THE SPINE containing papers on the chiropractic research carried out at the University of Colorado.

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New Zealand

Dr. Wilson and his staff have compiled extensive materials regarding chiropractors and their patients.

California Council Against Health Fraud, Inc.
William Jarvis, Ph.D., President

California Council Against Health Fraud Inc.: A Non-Profit Consumer Agency. P.O. Box 1276, Loma Linda, CA 92354. (714)-796-3077.

Dr. Jarvis and this organization have compiled extensive materials regarding various health care providers and health care consumers.

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American Chiropractor

Annals of The Swiss Chiropractors' Association

Digest of Chiropractic Economics

Journal of Clinical Chiropractic

Journal of The Canadian Chiropractic Association

Today's Chiropractic

Journal of Manipulative & Physiological Therapeutics

ACCREDITED

Los Angeles College of Chiropractic
Northwestern College of Chiropractic
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Texas Chiropractic College
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Western States Chiropractic College

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Life Chiropractic College
Pasadena College of Chiropractic
Cleveland Chiropractic College—Los Angeles
Palmer College of Chiropractic—West
Life Chiropractic College West

APPENDIX II

CHIROPRACTIC PERIODICALS

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APPENDIX III MALPRACTICE CASE ON APPEAL

ATTORNEY GENERAL, on behalf of the
People of the State of Michigan,

Plaintiff-Appellee,

v

Docket #

Defendant-Appellant.

Before: Danhof, C. J., and J. H. Gillis and M. R. Knoblock,* JJ. J. H. GILLIS, J.

Defendant, D.C., a licensed chiropractor, appeals as of right from a circuit court order enjoining him from engaging in certain activities alleged to be outside the scope of the practice of chiropractic.

In September, 1977, plaintiff filed a complaint seeking to enjoin defendant from engaging in certain practices. At the time the action was commenced, the practice of chiropractic was defined in the Chiropractic Act, former MCL 338.151 *et seq.*; MSA 14.591 *et seq.* The former Act was subsequently repealed and replaced by the Michigan Public Health Code, 1978 PA 368, eff. September 30, 1978, MCL 333.1101 *et seq.*; MSA 14.15(1) *et seq.* See now, MCL 333.16401 *et seq.*; MSA 14.15(16401) *et seq.*

Following an initial hearing, the circuit court, on January 23, 1978, issued a preliminary injunction which remained in effect until the effective date of the Public Health Code. After the code became effective, the circuit court, on motion of defendant, dissolved the preliminary injunction and remanded the matter to the Department of Licensing and Regulation, Board of Chiropractic (hereinafter the Board) for an "advisory opinion" concerning whether the procedures conducted by defendant were violative of the new code provisions regarding chiropractic practice.

Hearings were held before an administrative law examiner who issued proposed findings and conclusions of law. The Board reviewed the matter on the record and, on January 27, 1981, entered an opinion which separately addressed each of the practices conducted by defendant.

On November 2, 1981, the circuit court issued an opinion finding that the challenged procedures conducted by defendant were outside the scope of chiropractic practice as defined in the Public Health Code. An order was entered November 19, 1981, permanently enjoining defendant from engaging in the enumerated practices. Defendant appeals.

Initially, we note that although the circuit court remanded the case to the agency for an "advisory opinion", nothing in either the Public Health Code or the Administrative Procedures Act (APA), MCL 24.201 *et seq.*; MSA 3.560(101) *et seq.*, authorizes such a procedure. In our opinion, the action taken by the

*Circuit Judge, sitting on the Court of Appeals by assignment.

trial court is more properly characterized as a request for a declaratory ruling from the agency, see Justice Levin's opinion in *Greenfield Construction Co., Inc v State Highway Dep't*, 402 Mich 172, 221–222; 261 NW2d 718 (1978). Review of the Board's decision should have been governed by MCL 24.263; MSA 3.560(163):

“On request of an interested person, an agency may issue a declaratory ruling as to the applicability to an actual state of facts of a statute administered by the agency or of a rule or order of the agency. An agency shall prescribe by rule the form for such a request and procedure for its submission, consideration and disposition. A declaratory ruling is binding on the agency and the person requesting it unless it is altered or set aside by any court. An agency may not retroactively change a declaratory ruling, but nothing in this subsection prevents an agency from prospectively changing a declaratory ruling. A declaratory ruling is subject to judicial review in the same manner as an agency final decision or order in a contested case.”

The function of the circuit court should have been to review the Board's rulings to determine whether they were contrary to law and supported by competent, material and substantial evidence on the whole record. MCL 24.306; MSA 3.560(206), *Hutchinson v Dep't of Mental Health*, 108 Mich App 725, 729; 310 NW2d 856 (1981).

The “practice of chiropractic” is defined in MCL 333.16401; MSA 14.15(16401):

“(b) ‘Practice of chiropractic’ means that discipline within the healing arts which deals with the nervous system and its relationship to the spinal column and its interrelationship with other body systems. Practice of chiropractic includes:

“(i) Diagnosis, including spinal analysis, to determine the existence of spinal subluxations or misalignments that produce nerve interference, indicating the necessity for chiropractic care.

“(ii) The adjustment of spinal subluxations or misalignments and related bones and tissues for the establishment of neural integrity utilizing the inherent recuperative powers of the body for restoration and maintenance of health.

“(iii) The use of analytical instruments, nutritional advice, rehabilitative exercise and adjustment apparatus regulated by rules promulgated by the board pursuant to section 16423, and the use of x-ray machines in the examination of patients for the purpose of locating spinal subluxations or misaligned vertebrae of the human spine. The practice of chiropractic does not include the performance of incisive surgical procedures, the performance of an invasive procedure requiring instrumentation, or the dispensing or prescribing of drugs or medicine.”

On appeal, we must determine whether the specific procedures conducted by defendant are outside the Public Health Code's provisions governing chiropractic care.

Diagnosis, x-ray and treatment of a patient's elbow.

Defendant testified at the administrative hearing that he took four x-rays of the patient's elbow in order to obtain diagnostic data and determine whether the problem was treatable through chiropractic procedures. The trial court enjoined defendant from “[d]iagnosing or attempting to diagnose other than spinal subluxations or misalignments which produce nerve interference”, and from “[t]reating or attempting to treat, or x-raying or attempting to x-ray an elbow”.

Under § 16401(1)(b)(i), diagnosis is for the limited purpose of determining the existence of spinal subluxations or misalignments that produce nerve interference, indicating the necessity for chiropractic

care. We recognize that nerve interference at the spinal column may produce symptoms in other parts of the body. Where a patient indicates pain in his elbow, the chiropractor may examine the elbow, but only for the purpose of determining whether the symptom is caused by nerve interference related to the spine. The chiropractor may remove the nerve interference through spinal adjustment, but may not directly treat the elbow.

Concerning the x-ray of a patient's elbow, § 16401(1)(b)(iii) specifically limits the use of x-ray machines in the examination of patients "for the purpose of locating spinal subluxations or misaligned vertebrae of the human spine". Since the x-ray of a patient's elbow cannot conceivably be for the purpose of *locating* spinal subluxations or misaligned vertebrae, it is not authorized by the statute.

General physical examination.

Defendant conducted a complete physical examination of the patient, including a check of the patient's pulse, respiration and blood pressure, and an examination of the heart, lungs, eyes, mouth, throat, and reflexes. In addition, defendant obtained a urine and hair sample for laboratory analysis. The trial court held that a complete physical examination "goes far, far beyond the statutory guidelines for the practice of chiropractic".

Under the statute, diagnosis is for the limited purpose of determining the existence of spinal subluxations or misalignments which produce nerve interference. Defendant argues that differential diagnostic techniques are necessary to determine whether the patient's health problems are amenable to chiropractic treatment. This argument was considered and rejected by the Court in *Attorney General v Recorder's Court Judge*, 92 Mich App 42, 55–56; 285 NW2d 53 (1979), *lv den* 407 Mich 955 (1980), where it was stated:

"Appellant contends that he had a duty to ascertain whether a patient's ailments were of a type to which chiropractic might be applied, *Janssen v Mulder*, 232 Mich 183; 205 NW 159 (1925), and that the use of such diagnostic techniques was necessary for making such a determination. While analysis of human specimens may reveal the existence of organic problems untreatable by chiropractic, this is true for all diagnostic tests used by members of the medical profession. We do not believe the Legislature intended to authorize chiropractors to engage in general diagnostic techniques. Had such a result been intended, it could have been clearly stated, as was done with respect to the use of x-rays. Rather than authorizing general diagnostic techniques, the statute limited chiropractors to those methods which might reveal the existence of misaligned or displaced vertebrae."

Although that case was decided under the former statute, the interpretation quoted above remains fully applicable under the new code.

Defendant also contends that an evaluation of the patient's overall health is necessary to discover health risks which may affect the safety of a patient under chiropractic treatment. While we agree that the information gained from general diagnostic techniques and analysis of human specimens may be important to the safe rendering of chiropractic care, there is nothing in the licensing statute requiring a chiropractor to be trained in evaluating a patient's general physical condition or assessing the health risks involved. For example, a chiropractor is not trained in discerning abnormalities in a patient's heart and lungs, or in interpreting a urinalysis report. If a chiropractor is concerned about the patient's general physical condition, he should refer the patient to a physician trained in such matters.

It is true, as defendant notes, that many of the differential diagnostic techniques are not, in and of themselves, dangerous to the patient. However, the potential harm occurs because the patient may be led to believe that the chiropractor is capable of detecting health ailments unrelated to the spine. Thus, the patient may believe that no other physical problems exist and may fail to seek appropriate medical care.

While chiropractic is a recognized discipline within the healing arts, it remains, by statute, a limited health profession. The trial court correctly ruled that a chiropractor may not perform a general physical examination, may not collect urine and hair specimens for analysis and may not diagnose other than spinal subluxations or misalignments of the spine. In addition, the court correctly ruled that defendant had no authority to execute a pre-employment record indicating that the patient had passed a complete physical examination.

Use of galvanic current, diathermy and ultrasound.

Plaintiff next complains that the use of galvanic current, diathermy and ultrasound for diagnostic and treatment purposes are outside the scope of chiropractic. The Board found that the statute authorizes their use for diagnosis, but not for treatment. The circuit court ruled that they constituted “invasive procedures requiring instrumentation” and that, therefore, such procedures are expressly prohibited by the Act. MCL 333.16401(b)(iii); MSA 14.15(16401)(b)(iii).

We find it unnecessary to decide whether these practices are invasive. In our opinion, the activities are included within the practice of physical therapy. MCL 333.17801(1)(b); MSA 14.15(17801)(1)(b). A person is not permitted to engage in the practice of physical therapy unless licensed as a physical therapist, or otherwise authorized by the Act. Since chiropractors are not given an express authorization to perform these procedures, as are physical therapists, we find that such procedures are outside the practice of chiropractic and are prohibited.¹

Sale, dispensing or prescribing of vitamins or food supplements.

Defendant prescribed a vitamin compound known as “nuelix” to the patient to rebuild ligaments in his back. Expert testimony established that nuelix was considered a food for special dietary use and not a “drug” under the pharmacy and drug laws of the State of Michigan.² The circuit court held that a chiropractor may not sell, dispense or prescribe vitamins to a patient. We agree.

Section 16401(1)(b)(iii) authorizes a chiropractor to give nutritional advice, but does not specifically address the use of vitamins and food supplements.

The Court in *Attorney General v Recorder’s Court Judge*, *supra*, addressed the question of whether a chiropractor could dispense various non-prescription medicines for colds, headaches, pain and nasal congestion, and topical medicine for rash and a scrape on the arm. The Court stated as follows:

“In *Attorney General v Raguckas*, 84 Mich App 618, 624, 625; 270 NW2d 665 (1978), this Court ruled that chiropractors were not authorized to dispense prescription drugs or perform acupuncture.

* * *

“While the Court in *Raguckas* was concerned with prescription drugs, we conclude that the rationale of that case is likewise applicable to non-prescription medicines.

“In *State v Wilson*, 11 Wash App 916; 528 P2d 279 (1974), the Washington Supreme Court ruled that chiropractors may not give or prescribe minerals, vitamins or food supplements. The Court noted that while these items are available without prescription in retail stores they may, nevertheless, be dangerous when improperly used.

“We agree with this analysis and conclude that the Michigan Legislature did not intend that chiropractors use any medicine given internally or externally for the treatment of disease or other human ailment.” 92 Mich App at 54-55.

Recorder's Court Judge involved non-prescription medicines rather than vitamins or food supplements. Nonetheless, the same concerns about the danger of improper use are present in the instant case. Chiropractors are not required to be disciplined in the use of vitamins and food supplements. While these materials are not "drugs" and are not regulated by the Public Health Code, we take judicial notice of the potential danger involved when they are misused. This concern was voiced in *Norville v Mississippi State Medical Ass'n*, 364 So 2d 1084, 1089 (1978):

"Norville has argued strenuously that since none of the vitamins involved require medical prescription and may be purchased by any layman over the counter in most stores, use of such vitamins should not be denominated 'practice of medicine.' We are fully cognizant that any layman can obtain such vitamins and that any retailer can sell such vitamins. Purchase of or sale of vitamins is not however the vice which is condemned here. Rather the vice condemned and that which constitutes the unlicensed practice of medicine is (1) prescription of vitamins, (2) to cure, (3) an ailment or disease, (4) for compensation.

"The chiropractor on the present facts does not simply sell vitamins to a customer who asks for them as does a retailer. Rather, he represents to a patient who has come to him that such vitamins will cure a disease or ailment. Further, unlike the relative or friend who recommends that someone take vitamins for nutrition or to prevent colds, and neither expects nor receives any compensation for such 'advice,' the chiropractor in a professional capacity advises the patient to take the vitamins for the ailment or disease, charges compensation for such advice, and may cause the patient to think his ailment or disease will thereby be cured. This is the vice condemned and the danger of such is amply demonstrated by the record."

The chiropractor, as a licensed health care provider, stands in a unique relationship to his patient. In view of the dangers expressed in *Norville*, it is our opinion that, had the Legislature intended to authorize chiropractors to prescribe, sell or dispense vitamins and food supplements, it would have specifically so provided.

Affirmed as modified.

¹For a description of the educational and training prerequisites required of one who seeks licensure as a chiropractor see 1979 AACs, Supp 9, R 338.12005, 12006.

²See MCL 333.17703; MSA 14.15(17703).

ATTORNEY GENERAL, on behalf of the
People of the State of Michigan,
Plaintiff-Appellee,

v

D.C.,
Defendant-Appellant.

No. 61360

BEFORE: Danhof, C. J., and J. H. Gillis and M. R. Knoblock,* JJ.

DANHOF, C. J. (dissenting in part; concurring in part)

Although I agree with the result reached by the majority in most respects, I find that I cannot agree with their treatment of the issue concerning the ability of chiropractors to recommend to their patients the use of food supplements and vitamins.

*Circuit Court Judge sitting by assignment.

The items in question are not regulated by the controlled substances section of the Public Health Code. MCL 333.7101 *et seq*; MSA 14.15(7101) *et seq*. On the contrary, they are readily accessible in most health food stores and in many other unregulated retail establishments. The majority, relying on *Attorney General v Recorder's Court Judge*, 92 Mich App 42; 285 NW2d 53 (1979), concludes that chiropractors are precluded from prescribing or dispensing these items because the statute does not specifically authorize them to do so.

In my opinion, the majority's reliance on *Attorney General v Recorder's Court Judge*, *supra*, is misplaced. That opinion involved the Chiropractic Act, former MCL 338.151 *et seq*; MSA 14.591 *et seq*. The former act was replaced by the occupations section of the Public Health Code, MCL 333.16101 *et seq*; MSA 14.15(16101) *et seq*, which, unlike the former act, specifically authorizes chiropractors to give nutritional advice. MCL 333.16401(b)(iii); MSA 14.15(16401)(b)(iii). Furthermore, contrary to the majority's assertion, chiropractors are now required to be trained and tested in subjects which are designed to provide them with expertise in this area (*e.g.*, anatomy, physiology, chemistry, pathology, microbiology, public health, rehabilitative procedures and nutrition). 1979 AC, Supp 9, R 338.12005.

The majority's reliance on *Norville v Mississippi State Medical Association*, 364 S2d 1084 (1978), is also improper. The Mississippi statute which was involved in that case specifically prohibited chiropractors from using drugs in treatment. Sec 73-6-1, Miss Code Anno (1972). Furthermore, the statute broadly defined the term drugs to include "all medicines for internal use for man or beast". Sec 1-3-7, Miss Code Anno (1972). The Court ruled that the foregoing evinced a strong legislative intent to preclude chiropractors from prescribing any substance for internal use.

Our statute contains no similar prohibition. On the contrary, as noted above, the Legislature has specifically authorized chiropractors to give nutritional advice. Furthermore, in view of the widespread availability of these items, and the fact that chiropractors are now required to be disciplined in this area, I am of the opinion that chiropractors may dispense or prescribe vitamins and food supplements.

I also disagree, in part, with the majority's treatment of the issue concerning whether chiropractors may check a patient's pulse, blood pressure or rate of respiration. The majority notes that if chiropractors are concerned about their patient's physical condition, they should refer them to physicians. Even if the statute requires a finding that chiropractors are precluded from checking their patient's pulse, blood pressure, or respiration for purposes of determining whether it is safe to engage in manipulative exercises, chiropractors should at a minimum be permitted to utilize those procedures to determine whether to refer their patients elsewhere.

APPENDIX IV

PROFESSIONAL RESUME OF PETER J. MODDE, D.C.

EDUCATION

Iowa Schools

Pre-Chiropractic at University of Iowa

Graduate of Palmer College of Chiropractic in 1964

Internship in Denver, Colorado at Hart Chiropractic Clinic

Residency, one year at Pettibon Clinic in Tacoma, WA.

Attended Post Graduate classes at several chiropractic colleges

PRACTICE

Opened Practice in Renton, WA in 1970

Continuous practice since.

PROFESSIONAL MEMBERSHIPS

Past Member of the American Chiropractic Association and the Washington Chiropractic Association, Active with Washington Chiropractic Association in Education Committee, Legislative Committees, Present Member of the Council Against Health Fraud in Washington State and the California Council Against Health Fraud, Inc., Founder of American Academy of Chiropractors, an Inter Disciplinary Professional Group.

PAST WRITINGS

Published several manuals in the basic sciences, Article in *Legal Medicine*, Several newspaper articles regarding consumer health care.

LEGISLATIVE WORK

I have consulted with legislative committees regarding medicine, chiropractic and health care, testified before legislative committees and comprehensive health care planning boards on the federal level.

Lobbied extensively to upgrade chiropractic diagnostic education.

INSURANCE CONSULTATION

I have reviewed claims for malpractice and alleged excessive utilization for major insurance companies. I have worked on interdisciplinary post graduate and continuing education programs with medical physicians and I have submitted materials to the major Senate and Congressional Committees which were considering chiropractic and national health care. I have consulted with various Attorney General offices regarding scope of practice for chiropractors and health care abuses.

I have lectured to insurance adjuster's associations, claims managers associations, various lay groups and professional medical and legal groups regarding chiropractic health care, health care fraud and insurance utilization.

I have been interviewed for several medical magazines, radio, and television regarding chiropractic health care, medicine and quackery.

I have testified in court on malpractice and reviewed over two hundred claims of alleged chiropractic malpractice.

APPENDIX V

OFFICIAL and UNOFFICIAL CHIROPRACTIC SPECIALITIES

Acupuncture	Diagnosis	Cardiology
Orthopedics	Internal Disorders	Athletics—Physical Fitness
Pediatrics	Radiology	Impairment Rating
Nutrition	Kinesiology	Physiotherapy
Neurology		

CHIROPRACTIC SPECIALTY COUNCILS

<i>I.C.A.</i>	<i>A.C.A.</i>
Athletic Injuries	Athletics—Physical Fitness
Orthopedics	Diagnosis—Internal Disorders
Roentgenology	Mental Health
Technic	Neurology
	Nutrition
	Orthopedics
	Physiotherapy
	Roentgenology
	Technic

There are examining boards within organized chiropractic which certify chiropractors for various specialities but I am not aware of any specialities which are legally certified by state board licensure.

CHIROPRACTIC DEGREES

D.C.	Doctor of Chiropractic
P.H.C.	Philosopher of Chiropractic
D.C.H.	Doctor of Chiropractic Humanities
D.N.B.C.E.	Diplomate of National Board of Chiropractic Examiners
D.N.B.C.O.	Diplomate of National Board of Chiropractic Orthopedics
D.N.B.C.R.	Diplomate of National Board of Chiropractic Roentgenology

FELLOWSHIPS

Several specific fellowships are granted for research and outstanding service.

F.I.C.A.	Fellowship of International Chiropractic Association
F.A.C.A.	Fellowship of American Chiropractic Association

APPENDIX VI

ALABAMA

NAME OF BOARD:	Alabama State Board of Chiropractic Examiners.
TYPE OF BOARD:	Chiropractic.
LICENSES REQUIRED:	Chiropractic.
SUBJECTS EXAMINED:	Symptomatology, physical diagnosis, neurology, hygiene and sanitation, chiropractic orthopedy (chiropractic orthopedics), spinography (X-ray diagnosis and radiation safety), nerve tracing and adjusting (chiropractic adjusting and manipulative procedures).
EDUCATION REQUIREMENTS:	High school or equivalent, four-year. Chiropractic college (chiropractic students may take the exam during the last term).
SCOPE OF PRACTICE:	May examine, analyze, and diagnose the human body and its diseases with any physical, clinical, or thermal method, and the use of X-ray diagnosis, and may use other general methods of examination for diagnosis and analysis taught in any school of chiropractic recognized by the Alabama State Board of Chiropractic Examiners. Chiropractic physicians licensed by the State Board of Chiropractic Examiners may practice chiropractic as set forth in Section 34-24-120 and (a) and (b) of the Alabama Law and may also recommend the use of foods and concentrates, food extracts, and may apply first aid and hygiene, but chiropractors are expressly prohibited from prescribing or administering to any person any drugs included in materia medica, except as herein provided, from performing obstetrics, or from giving X-ray treatments, or treatments involving the use of radioactive materials of any description.
OFFICIAL ADDRESS:	D. K. Cooper, D.C., Executive Secretary Alabama State Board of Chiropractic Examiners P.O. Drawer 3607 Robertsdale, AL 36567

ALASKA

NAME OF BOARD:	Alaska Board of Chiropractic Examiners.
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TYPE OF BOARD:	Chiropractic.
LICENSES REQUIRED:	Chiropractic.
SUBJECTS EXAMINED:	<p>Part I (basic science subjects): anatomy, physiology, bacteriology, chemistry (organic, inorganic, bio-nutrition), pathology, hygiene-sanitation, and public health.</p> <p>Part II (clinical subjects): physical, clinical, laboratory, and differential diagnosis, gynecology, obstetrics, pediatrics, roentgenology, geriatrics, dermatology, toxicology, psychology, psychiatry, principles of chiropractic, orthopedics and first aid, physiotherapy, ethics, and economics and jurisprudence.</p> <p>Part III: Practicals, with some oral questions as indicated, will be given in the subjects of chiropractic technique, physiotherapy, and X-ray interpretation.</p>
EDUCATION REQUIREMENTS:	Two years liberal arts or science college, graduate of a legally chartered, accredited school or college of chiropractic approved by the Board which required for graduates, a resident course of instruction of not less than four years of nine months each.
SCOPE OF PRACTICE:	Chiropractic is defined as the science of locating and correcting interference with nerve energy transmission and expression within the human body, and the employment and practice of drugless therapeutics, including physiotherapy, hydrotherapy, mechanotherapy, phytotherapy, electrotherapy, chromotherapy, thermotherapy, thalmotherapy, corrective and orthopedic gymnastics, and dietetics which includes the use of foods and those biochemical tissue building products and cell salts found within the normal human body, without the use of drugs or surgery.
OFFICIAL ADDRESS:	State of Alaska, Dept. of Commerce, Division of Occupational Licensing Pouch "D", Juneau, AK 99811

ARIZONA

NAME OF BOARD:	Arizona State Board of Chiropractic Examiners.
TYPE OF BOARD:	Chiropractic.
LICENSES REQUIRED:	Chiropractic.
SUBJECTS EXAMINED:	Anatomy, physiology, pathology, bacteriology, symptomatology, diagnosis including physical, clinical, X-ray and laboratory subjects, chiropractic orthopedics, principles of chiropractic and adjusting, neurology, chemistry including biochemistry and

nutrition, public health and hygiene, physiotherapy and traction and chiropractic spinal analysis, as taught by accredited chiropractic schools and colleges. An applicant may request that his examination not include the subject of physiotherapy and traction.

EDUCATION REQUIREMENTS: High school, graduate of chiropractic school or college accredited by or having status with CCE or having the equivalent of such standards as determined by the Board.

SCOPE OF PRACTICE: A Doctor of Chiropractic is a portal of entry health care provider who engages in the practice of health care which includes:

1. The practice of health care which deals with the detection and correction of subluxations, functional vertebral or articular dysarthrosis or neuromuscular skeletal disorders for the restoration and maintenance of health.
2. The use of physical and clinical examinations, diagnostic X-rays and clinical laboratory procedures by referral in order to determine the propriety of a regime of chiropractic care or to form a basis for referral of patients to other licensed health care professionals, or both.
3. Treatment by adjustment of the spine or bodily articulations and those procedures preparatory and complementary to such adjustment, including physiotherapy and traction related to the correction of subluxations or orthopedic supports of the spine and acupuncture by certifications. A person licensed under this chapter shall not prescribe or administer medicine or drugs, perform surgery or practice obstetrics.

OFFICIAL ADDRESS: Arizona Board of Chiropractic Examiners,
1645 West Jefferson, Room 417,
Phoenix, AZ 85007

ARKANSAS

NAME OF BOARD: Arkansas State Board of Chiropractic Examiners.

TYPE OF BOARD: Chiropractic.

LICENSES REQUIRED: Chiropractic.

SUBJECTS EXAMINED: Anatomy, physiology, chemistry, pathology, bacteriology, symptomatology, diagnosis, radiographic techniques and diagnosis, hygiene and public health.

EDUCATION REQUIREMENTS: Four years or nine months; Basic Science Certificate; 4,400 hours of 50 minutes; high school diploma, and not less than two years of college education in the field of science.

SCOPE OF PRACTICE: Practice of chiropractic means the engagement for compensation in the diagnosis and analysis of any interference with normal nerve transmission and expression, the procedure preparatory to and complimentary to the correction thereof by an adjustment of the articulations of the vertebral column, its immediate articulations, or by other incidental adjustments for the restoration and maintenance of health and includes therapy, the normal regimen, and rehabilitation of the patient for the purpose of removing any injury, deformity, or abnormality of human beings without the use of drugs or surgery. The practice of chiropractic shall not include the performance of the duties of a mid-wife or obstetrician, therapy by the use of ionizing radiation, incisive surgery, prescribing for or administering to any person any drug to be taken internally, or puncturing the skin.

OFFICIAL ADDRESS: M. E. Calhoun, D.C., Pres.,
1522 Maple Street North
Little Rock, AR 72114

CALIFORNIA

NAME OF BOARD: California State Board of Chiropractic Examiners.

TYPE OF BOARD: Chiropractic.

LICENSES REQUIRED: Chiropractic.

SUBJECTS EXAMINED: Anatomy, embryology & histology, physiology, biochemistry, inorganic and organic chemistry, bacteriology, pathology, principles & practice of chiropractic, public health, hygiene & sanitation, obstetrics & gynecology, diagnosis, dermatology, toxicology, syphilology, psychiatry, X-ray, serology, dietetics, physiotherapy and office procedure.

EDUCATION REQUIREMENTS: Graduate of chiropractic college having status with the CCE, and a diploma from a high school and a transcript of 60 pre-chiropractic college credits satisfactory to the Board.

SCOPE OF PRACTICE: The basic principle of chiropractic is the maintenance of structural and functional integrity of the nervous system. A duly licensed chiropractor may only practice or attempt to practice or hold himself out as practicing a system of treatment by manipulation of the joints of the human body by manipulation of anatomical displacements, articulations of the spinal column, including its vertebrae and cord, and he may use all necessary mechanical, hygienic and sanitary measures incident to the care of the body in connection with said system of treatment, but not for the purpose of treatment, and not including measures as would constitute the practice of medicine, surgery, osteopathy, dentistry or optometry, and without the use of any drug or medicine included

in materia medica. A duly licensed chiropractor may make use of light, air water, rest, heat, diet, exercise, massage, and physical culture, but only in connection with an incident to the practice of chiropractic as herein above set forth.

OFFICIAL ADDRESS: State Board of Chiropractic Examiners
Mr. Edward J. Hoefling, Sec.
921 11th St., Suite 601
Sacramento, CA 95814.

COLORADO

NAME OF BOARD: Colorado State Board of Chiropractic Examiners.

TYPE OF BOARD: Chiropractic.

LICENSES REQUIRED: Chiropractic, National Board.

SUBJECTS EXAMINED: Anatomy, including embryology and histology, physiology and psychology, biochemistry, inorganic and organic chemistry, pathology, bacteriology, toxicology, public health, hygiene, sanitation, first aid, diagnosis, pediatrics, dermatology, syphilology, psychiatry, X-ray, obstetrics, gynecology, principles and practice of chiropractic, adjustive technique.

EDUCATION REQUIREMENTS: High school or its equivalent; graduate of approved chiropractic college, teaching course not less than 4,000 res. classroom hours in period of four academic years.

SCOPE OF PRACTICE: Chiropractic means that branch of healing arts which is based on the premise that disease is attributable to the abnormal functioning of the human nervous system. It includes the diagnosing and analyzing of human ailments and seeks the elimination of the abnormal functioning of the human nervous system by the adjustment or manipulation thereof and the use of sanitary hygienic, nutritional, and physical remedial measures necessary to such practice. Electrotherapy means the application of any radiant or current energies of high or low frequency, alternating or direct current, except surgical cauterization, electrocoagulation, the use of radium in any form, and X-ray therapy, by a trained chiropractor who has fulfilled the educational and licensing requirements of this state board.

OFFICIAL ADDRESS: Ms. Janice Kock, Sec.
Colorado State Board of Chiropractic Examiners, Room 128
1525 Sherman State Services Building
Denver, CO 80203

CONNECTICUT

NAME OF BOARD:	Connecticut Board of Chiropractic Examiners.
TYPE OF BOARD:	Chiropractic.
LICENSES REQUIRED:	Chiropractic.
SUBJECTS EXAMINED:	National board diplomate. Practical: orthopedics, neurology, chiropractic technique, clinical evaluation, X-ray interpretation (spinal), personal interview.
EDUCATION REQUIREMENTS:	Two years pre-professional work (60 hours) leading to a baccalaureate degree. Chiropractic college with an accredited status or equivalent by the CCE or other agency approved by HEW.
SCOPE OF PRACTICE:	The practice of that branch of the healing arts consisting of the science of adjustment, manipulation and treatment of the human body in which a vertebral subluxation and other mal-positioned articulations and structures that may interfere with the normal generation, transmission and expression of nerve impulses between the brain, organs and tissue cells of the body, which may be a cause of disease, are adjusted, manipulated or treated. Examine, analyze and diagnose the human living body and its diseases, and use for diagnostic purposes X-ray or other general method of examination for diagnosis and analysis taught in any school of chiropractic. Treat the body by manual, mechanical, electrical or natural methods or by use of physical means, including light, heat, water or exercise in preparation for chiropractic adjustment and by the oral administration of foods, food concentrates, food extracts or vitamins.
OFFICIAL ADDRESS:	George J. Paul, D.C. Connecticut Board of Chiropractic Examiners 914 Main Street E. Hartford, CT 06032

DELAWARE

NAME OF BOARD:	Delaware State Board of Chiropractic Examiners.
TYPE OF BOARD:	Chiropractic.
LICENCES REQUIRED:	Chiropractic.
SUBJECTS EXAMINED:	Anatomy, physiology, chemistry, bacteriology, hygiene, symptomatology, orthopedy, chiropractic analysis, chiropractic principles and practice, nerve tracing, palpation and adjusting and drugless therapy. Basic science exams given by chiropractic board.

EDUCATION REQUIREMENTS: Two years academic college; four years accredited chiropractic school.

SCOPE OF PRACTICE: Chiropractic is the science of locating and removing any interference with the transmission of nerve energy. A license granted under the provisions of this chapter shall not entitle a licensee to use drugs, surgery, osteopathy, obstetrics, dentistry, optometry or chiropody.

OFFICIAL ADDRESS: Office of Professional Licensing
State Board of Chiropractic
Eugene Clocum, Administration
Margaret O'Neill Building
Dover, DE 19901

DISTRICT OF COLUMBIA

NAME OF BOARD: Board of Examiners in Chiropractic.

TYPE OF BOARD: Chiropractic.

LICENSES REQUIRED: Chiropractic; Basic Science.

SUBJECTS EXAMINED: Anatomy, physiology, nerve tracing, and principles and practice of chiropractic, and palpation.

EDUCATION REQUIREMENTS: Two years pre-professional college, four years of 9 months each in a chiropractic college. Maybe be 36 consecutive months.

OFFICIAL ADDRESS: P. Joseph Sarnella, Staff Dir.
Comm. on Licensure to Practice the Healing Arts
Room 202, Lower Level
605 G. St., NW
Washington, DC 20001

FLORIDA

NAME OF BOARD: Florida State Board of Chiropractic.

TYPE OF BOARD: Chiropractic.

LICENSES REQUIRED: Chiropractic.

SUBJECTS EXAMINED: Basic subjects: diagnosis, chiropractic principles and practice, X-ray, hygiene, orthopedics, physiotherapy.

EDUCATION REQUIREMENTS: High school graduate, approved chiropractic college graduate, two years of liberal arts.

SCOPE OF PRACTICE: May examine, analyze and diagnose the human living body and its diseases by the use of any physical, chemical, electrical, or thermal method, and use the X-ray for diagnosing, and may use any other general method of examination for diagnosis and analysis taught in any school of chiropractic recognized and approved by the Florida State Board of Chiropractic Examiners.

Chiropractic physicians may adjust, manipulate, or treat the human body by manual, mechanical, electrical or natural methods, or by the use of physical means, physiotherapy (including light, heat, water or exercise) or by the oral administration of food and food concentrates, food extracts, and may apply first aid and hygiene, but chiropractic physicians are expressly prohibited from prescribing or administering to any person any medicine or drug, or from performing any surgery, except as herein above stated or from practicing obstetrics.

OFFICIAL ADDRESS: Mrs. Jane H. Raker, Exec. Director
Florida State Board of Chiropractic
Department of Professional Regulation
130 N. Monroe Street
Tallahassee, FL 32301

GEORGIA

NAME OF BOARD: Georgia Board of Chiropractic Examiners.

TYPE OF BOARD: Chiropractic.

LICENSES REQUIRED: Chiropractic.

SUBJECTS EXAMINED: Anatomy, physiology, symptomatology, pathology, physical diagnosis, neurology, chemistry, hygiene and sanitation, adjusting, bacteriology, X-ray and spinography.

EDUCATION REQUIREMENTS: High school graduate, 4 years of 9 months in approved chiropractic college. After Jan. 1, 1964: Two years general college training in college approved by virtue of reciprocity through said association.

SCOPE OF PRACTICE: The term, chiropractic, as used in this chapter means the adjustment of the articulation of the human body, including ilium, sacrum and coccyx, and in the use of electricity, X-ray photography but the X-ray shall not be used for therapeutical purposes. Chiropractors shall have the right to adjust patients according to specific chiropractic methods and shall observe state, municipal, and public health regulations, sign death and health certificates, reporting to the proper health officers the same as other practitioners. Chiropractors shall not prescribe or adminis-

ter medicine to patients, perform surgery, nor practice obstetrics or osteopathy.

OFFICIAL ADDRESS: Mr. Michael R. Fowler, Jt. Sec.
State Examining Board
166 Pryor Street S.W.
Atlanta, GA 30303

HAWAII

NAME OF BOARD: Hawaii Board of Chiropractic Examiners.

TYPE OF BOARD: Chiropractic.

LICENSES REQUIRED: Chiropractic.

SUBJECTS EXAMINED: Anatomy and histology, physiology, bacteriology, hygiene and sanitation, pathology, chiropractic orthopedy, diagnosis or analysis, chiropractic analysis and principles, technique.

EDUCATION REQUIREMENTS: Four years or 9 months chiropractic college, two years liberal arts and/or science.

SCOPE OF PRACTICE: Chiropractic is the science of palpating and adjusting the articulations of the human spinal column by hand only; provided that the practice of chiropractic as contemplated and set forth in this chapter shall not exclude the use of any method or means, or any agent, either tangible or intangible, for the treatment of disease in the human subject; subject to the restrictions contained in this chapter; and provided further, that the practice of chiropractic as contemplated and set forth in this chapter shall not include the practice of lomilomi or massage.

OFFICIAL ADDRESS: Dept. of Commerce & Consumer Affairs
P.O. Box 3469
Honolulu, HI 96801

IDAHO

NAME OF BOARD: Idaho State Board of Chiropractic Physicians.

TYPE OF BOARD: Chiropractic.

LICENSES REQUIRED: Chiropractic.

SUBJECTS EXAMINED: Anatomy and histology, bacteriology, chemistry, diagnosis, dietetics, hygiene and sanitation, chiropractic jurisprudence, lab analysis, nutritional supplements, orthopedics, pathology,

psycho-electro-hydro-therapy, physiology, chiropractic principles and technique, symptomatology, x-ray technique and diagnosis.

EDUCATION REQUIREMENTS: High school, two years credits from a college or university (only CCE schools accredited or recognized by accreditation) and accredited attendance at a recognized chiropractic college or university in good standing which required two years pre-professional college as entrance qualification.

SCOPE OF PRACTICE: Recognizing that the practice of chiropractic is a privilege granted by the state of Idaho and is not a natural right of individuals, the purpose of this chapter is to insure the public health, safety, and welfare in the state of Idaho by the licensure and regulation of chiropractic physicians and the exclusion of unlicensed persons from the practice of chiropractic. Chiropractic practice and procedures which may be employed by physicians are as follows: the system of specific adjustment of manipulation of the articulations and tissues of the body; the investigation, examination, and clinical diagnosis of conditions of the human body by the application of manipulative, manual mechanical, physiotherapeutic or clinical nutritional methods and may include the use of diagnostic X-rays. Nothing herein contained shall allow any physician to perform surgery or practice obstetrics, direct or suggest to the patient that such patient shall use a substance which, under federal law is required, prior to being dispensed or delivered, to be labeled with either of the following statements: "Caution: Federal Law Prohibits Dispensing without Prescription," or "Caution: Federal Law Restricts this Drug to Use By or On the Order of a Licensed Veterinarian," or a product which is required by any applicable federal or state law regulation to be dispensed on prescription only or is restricted to use by practitioners only.

OFFICIAL ADDRESS: Eugene A. Sobolik, D.C., Chairman
1805 Overland Road
Boise, ID 83705

ILLINOIS

NAME OF BOARD: Illinois Medical Examining Committee.

TYPE OF BOARD: Composite.

LICENSES REQUIRED: Chiropractic.

SUBJECTS EXAMINED: Anatomy, physiology, chemistry, pathology, bacteriology, hygiene, diagnosis, gynecology, geriatrics, chiropractic, jurisprudence, practical.

EDUCATION REQUIREMENTS: High school; 132-week course in approved professional school. For an applicant who is a matriculant in a chiropractic college after Sept. 1, 1969, that such applicant shall be required as a prerequisite for admission to exam for licensure, to complete a 2 year course of instruction in a liberal arts college, or its equivalent. For an applicant who is a graduate of a U.S. chiropractic college after Aug. 19, 1981, the college of the applicant must be fully accredited by the Commission on Accreditation of the CCE. Reciprocity—recognize all B. SC. Boards.

SCOPE OF PRACTICE: Illinois does not define chiropractic by statute. Provision is made in the Illinois Medical Practice Act for Licensing: "The practice of any system or method of treating human ailments without the use of drugs or medicine and without operative surgery."

OFFICIAL ADDRESS: David S. Fox, M.D.
5830 Stony Island Ave.
Chicago, IL 60637

INDIANA

NAME OF BOARD: Indiana Board of Chiropractic Examiners.

TYPE OF BOARD: Chiropractic.

LICENSES REQUIRED: Chiropractic.

SUBJECTS EXAMINED: Board accepts national board with chiropractic therapeutics to be given by the Chiropractic Board member and excluding materia medica.

EDUCATION REQUIREMENTS: Graduate of chiropractic college meeting requirements of Medical Licensing Board of Indiana; graduate requirements shall be at least four years and 4,000 hours of resident attendance instruction. Completed at least two years (60 semester hours) in college accredited to grant Bachelor of Arts or Science degree prior to training and education in chiropractic college.

SCOPE OF PRACTICE: Chiropractic means the diagnosis and analysis of any interference with normal nerve transmission and expression, the procedure preparatory to and complementary to the correction thereof by an adjustment of the vertebral column, its immediate articulation and includes other incidental means of adjustment of the spinal column and the practice of drugless therapeutics; however, chiropractic does not include the following: prescription or administration of legend drugs or other controlled substances; performing incisive surgery; penetration of the skin with a needle or other instrument for any purpose except for the purpose of blood analysis; ionizing radiation therapy; conducting invasive diagnostic tests or analysis of body fluids except for urinalysis, and

the taking of X-rays other than the vertebral column and extremities.

OFFICIAL ADDRESS: Ronald Kolanko, D.C., Chairman
P.O. Box 2557
425 W. Alto Road
Kokomo, IN 46902

IOWA

NAME OF BOARD: Iowa Board of Chiropractic Examiners.

TYPE OF BOARD: Chiropractic.

LICENSES REQUIRED: Chiropractic.

SUBJECTS EXAMINED: Practical clinical subjects with written and oral demonstrations in the area of diagnosis and treatment.

EDUCATION REQUIREMENTS: Graduate from approved school (CCE minimum); national board diplomate taken after July 1, 1976, including all electives.

SCOPE OF PRACTICE: Treatment of human ailments by the adjustment of the musculo-skeletal structures, or by other procedures incidental to musculo-skeletal adjustments (use of heat, cold, exercise, and supports). The utilization of procedures and devices in which the doctor of chiropractic has received training by a college of chiropractic, approved by the Board of Examiners or for which he/she has completed the necessary training and possesses that degree of proficiency which is common to physicians in the state of Iowa. Such procedures and devices would be for the purpose of determining the nature and manner of chiropractic treatment to be employed or whether a chiropractic procedure should be performed.

OFFICIAL ADDRESS: Harriett L. Miller, Exec. Sec.
Iowa Board of Chiropractic Examiners
Health Department
Lucas State Office Building
Des Moines, IA 50306

KANSAS

NAME OF BOARD: Kansas State Board of Healing Arts.

TYPE OF BOARD: Composite.

LICENSES REQUIRED: Chiropractic.

SUBJECTS EXAMINED:	Diagnosis, x-ray interpretation, physiotherapy, chiropractic manipulation technique.
EDUCATION REQUIREMENTS:	Two years towards Bachelor of Arts Degree. Graduate of CCE accredited chiropractic college.
SCOPE OF PRACTICE:	For the purpose of this act, the following persons shall be deemed to be engaged in the practice of chiropractic: (1) persons who examine, analyze, and diagnose the living human body, and its diseases by the use of any physical, thermal, or manual method and use the x-ray diagnosis and analysis taught in any recognized chiropractic school, and (2) persons who adjust any misplaced tissue of any kind or nature, manipulate, or treat the human body by manual, mechanical, electrical or natural methods or by the use of physical means, physiotherapy (including light, heat, water or exercise) or by the use of foods, food concentrates, or food extracts, or who apply first aid and hygiene, but chiropractors are expressly prohibited from prescribing or administering to any person medicine or drugs in materia medica, or from performing any surgery as herein above stated or from practicing obstetrics.
OFFICIAL ADDRESS:	Elizabeth W. Carlson, Exec. Sec. 503 Kansas Ave. Suite 500 Topeka, KS 66603

KENTUCKY

NAME OF BOARD:	Kentucky State Board of Chiropractic Examiners.
TYPE OF BOARD:	Chiropractic.
LICENSES REQUIRED:	Chiropractic.
SUBJECTS EXAMINED:	Bacteriology, anatomy (histology), hygiene (sanitation), pathology, physiology, chemistry (nutrition), roentgenology, clinical competency (analysis/neurological testing/orthopedic testing/techniques), chiropractic principles & practice (philosophy/ethics/symptomatology).
EDUCATION REQUIREMENTS:	Sixty transferable units of study by a college or university accredited or recognized by the Southern Association of Colleges; accredited chiropractic college diploma, and annual two day postgraduate work.
SCOPE OF PRACTICE:	Chiropractor MEANS ONE QUALIFIED BY EXPERIENCE AND TRAINING AND LICENSED BY THE BOARD to diagnose his patients and to treat those of his patients diagnosed as having disease or disorders relating to subluxations of the articu-

lations of the human spine and its adjacent tissues by indicated adjustment of those subluxations and by applying methods of treatments designed to augment those adjustments. Any person licensed under this chapter may sign death certificates and sign and execute all legal documents and certificates with the same authority as members of other schools or systems of treatments.

OFFICIAL ADDRESS: Harold Byers, D.C., President
105 Lyndon Lane
Suite 102
Louisville, KY 40222

LOUISIANA

NAME OF BOARD: Louisiana Board of Chiropractic Examiners.

TYPE OF BOARD: Chiropractic.

LICENSES REQUIRED: Chiropractic.

SUBJECTS EXAMINED: Anatomy, physiology, hygiene, pathology, chemistry, principles and practice of chiropractic, X-ray and bacteriology and physical diagnosis.

EDUCATION REQUIREMENTS: High school. 60 hours of course work at a college or university of liberal arts or science. Has graduated from a chiropractic school which is accredited by ACC or CCE.

SCOPE OF PRACTICE: Practice of chiropractic means the holding out of one's self to the public as a chiropractor and as being engaged in the business of employing objective and subjective means to ascertain the alignment of the vertebrae of the human spine, including the use of analytical instruments of demonstrable efficacy for the purpose of analysis, and the practice of adjusting or manipulating the vertebrae and adjacent tissue for the purpose of correcting interference with nerve transmission and expression, on a person other than himself, and such exercise, external application of heat or cold and recommendations relative to personal hygiene and proper nutritional practices for the rehabilitation of the patient. The practice of chiropractic does not include the right to prescribe, dispense or administer medicine or drugs, or to engage in the practice of major or minor surgery, obstetrics, acupuncture, X-ray therapy or radium therapy.

OFFICIAL ADDRESS: G. E. Hinton, D.C., President
2549 Carey Street
Slidell, LA 70458

MAINE

NAME OF BOARD:	Maine Board of Chiropractic Examination and Registration.
TYPE OF BOARD:	Chiropractic.
LICENSES REQUIRED:	Chiropractic.
SUBJECTS EXAMINED:	Anatomy, physiology, symptomatology, hygiene, sanitation, chemistry, histology, pathology, hydrotherapy, electrotherapy, dietetics, chiropractic analysis, principles and practice of chiropractic, X-ray technique and interpretation.
EDUCATION REQUIREMENTS:	Two years liberal arts, including English and biology, 4,400 hours chiropractic college.
SCOPE OF PRACTICE:	The system, method or science commonly known as chiropractic, or the practice of chiropractic is defined to be the science of palpating and adjusting the segments and articulations of the human spinal column by hand and locating and correcting interference with nerve transmission and diet without the use of drugs or surgery, and any and all other methods are declared not to be the practice of medicine, surgery, dentistry, or osteopathy.
OFFICIAL ADDRESS:	G. Roy Slocum, D.C., Chairman 30 Bath Rd. Brunswick, ME 04011

MARYLAND

NAME OF BOARD:	Maryland State Board of Chiropractic Examiners.
TYPE OF BOARD:	Chiropractic.
LICENSES REQUIRED:	Chiropractic.
SUBJECTS EXAMINED:	Anatomy, histology, physiology, pathology, chemistry, bacteriology, symptomatology, chiropractic principles, orthopedy, neurology, chiropractic techniques, physical diagnosis, X-ray, hygiene, sanitation (physical therapy—separate exam and certificate).
EDUCATION REQUIREMENTS:	Two years college credits; four years chiropractic, 4,400 hours. Pre-college of two of three subjects required: biology, physics, or chemistry. Maryland Board accepts only fully accredited CCE schools.
SCOPE OF PRACTICE:	Chiropractic is hereby defined to be a drugless health system, the basic principle of which teaches that disease is caused by interference with the transmission of nerve impulses. The practice of chiropractic is defined as diagnosis, the location of misaligned or

displaced vertebrae of the human spinal column, the procedure preparatory to and the adjustment by hand of such misaligned or displaced vertebrae of the spinal column and its articulations, by any method not including the use of drugs, surgery, obstetrics, or osteopathy, nor any branch of medicine, providing that nothing herein contained shall be construed to prohibit the use by any licensed chiropractor of the selection of food materials necessary for the nourishment of the body and measures of cleanliness incident to the care of the human body.

OFFICIAL ADDRESS: Lewis S. Tawney, D.C., President
4207 Wilkens Ave.
Baltimore, MD 21229

MASSACHUSETTS

NAME OF BOARD: Massachusetts Board of Registration of Chiropractors.

TYPE OF BOARD: Composite.

LICENSES REQUIRED: Chiropractic.

SUBJECTS EXAMINED: Anatomy, physiology, chemistry, hygiene, pathology, diagnosis, public health, principles and practice and practical examination.

EDUCATION REQUIREMENTS: High school, graduate of chiropractic school or college approved by the Board, and which is authorized to confer degree, giving a four year course of 4,000 hours. After December 1, 1969, proof that an applicant has completed two years in a curriculum leading to a bachelors degree in liberal arts or science.

SCOPE OF PRACTICE: Chiropractic: the science of locating and removing interference with the transmission or expression of nerve force in the human body, by the correction of misalignments or subluxations of the bony articulation and adjacent structures, more especially those of the vertebral column and pelvis, for the purpose of restoring and maintaining health. It shall exclude operative surgery, prescription or use of drugs or medicines, the practice of obstetrics, the treatment of infectious diseases, and internal examinations, whether or not diagnostic instruments are used except that the X-ray and analytical instruments may be used solely for the purpose of chiropractic examinations.

OFFICIAL ADDRESS: Room 1514
Leverett Saltonstall Building
100 Cambridge Street
Boston, MA 02202

MICHIGAN

NAME OF BOARD:	Michigan Board of Chiropractic.
TYPE OF BOARD:	Chiropractic.
LICENSES REQUIRED:	Chiropractic.
SUBJECTS EXAMINED:	Anatomy, histology, pathology, diagnosis, and theory and practice of chiropractic, physiology, chemistry, microbiology and public health, examination, analysis and diagnosis, X-rays, principles and practice, rehabilitative procedures, nutrition, scope of practice, or acceptance of national boards.
EDUCATION REQUIREMENTS:	Two years liberal arts education, D.C. degree from school approved by Board.
SCOPE OF PRACTICE:	Practice of chiropractic means that discipline within the healing arts which deals with the nervous system and its relationship to the spinal column and its interrelationship with other body systems. Practice of chiropractic includes: diagnosis, including spinal analysis, to determine the existence of spinal subluxations or misalignments that produce nerve interference, indicating the necessity for chiropractic care; the adjustment of spinal subluxations or misalignments and related bones and tissues for the establishment of neural integrity utilizing the inherent recuperative powers of the body for restoration and maintenance of health; the use of analytical instruments, nutritional advice, rehabilitative exercise and adjustment apparatus regulated by rules promulgated by the Board pursuant to Section 16423, and the use of X-ray machines in the examination of patients for the purpose of locating spinal subluxations or misaligned vertebrae of the human spine.
OFFICIAL ADDRESS:	Dr. Edward M. Liddle, Licensing Executive Dept. of Licensing and Regulation Board of Chiropractic 905 Southland, Box 30018 Lansing, MI 48909

MINNESOTA

NAME OF BOARD:	Minnesota State Board of Chiropractic Examiners.
TYPE OF BOARD:	Chiropractic.
LICENSES REQUIRED:	Chiropractic.
SUBJECTS EXAMINED:	Diagnosis (physical, clinical, laboratory), dietetics (general and practical nutrition), roentgenology (interpretation technique, fun-

damental, pathological, analytical phases), principles of chiropractic (science and art of chiropractic, intellectual adaptation, chiropractic philosophy), jurisprudence, ethics and economics. Practical demonstration: vertebral palpation nerve tracing and chiropractic adjusting technique, chiropractic case management, physiotherapy and practical roentgenology.

EDUCATION REQUIREMENTS: Applicant must have at least one half of all credits leading to a baccalaureate degree from the University of Minnesota, or college of equal standing and four years in a chiropractic college accredited by CCE.

SCOPE OF PRACTICE: Chiropractic is hereby defined as being the science of adjusting any abnormal articulations of the human body, especially those of the spinal column, for the purpose of giving freedom of action to impinged nerves that may cause pain or deranged function. The practice of chiropractic is hereby declared not to be the practice of medicine, surgery, or osteopathy.

OFFICIAL ADDRESS: Elizabeth Brochman, D.C., Exec. Sec.
Minnesota Board of Chiropractic Examiners
717 Delaware S.E., Room 336
Minneapolis, MN 55414

MISSISSIPPI

NAME OF BOARD: Mississippi Board of Chiropractic Examiners.

TYPE OF BOARD: Chiropractic.

LICENSES REQUIRED: Chiropractic.

SUBJECTS EXAMINED: Theory and practice of chiropractic, nerve tracing, spinal analysis, X-ray practice and interpretation, anatomy, physiology, pathology.

SCOPE OF PRACTICE: The practice of chiropractic involves the analysis of any interference with normal nerve transmission and expression, and the procedure preparatory to and complimentary to the correction thereof, by an adjustment of the articulations of the vertebral column and its immediate articulations for the restoration and maintenance of health without the use of drugs and surgery. Nothing in this chapter shall be construed as conferring upon the holder of such certificate the right to practice medicine and surgery as a physician or osteopathic physician as defined by statute, to advise or prescribe the use of drugs by his patients, or to advise a patient not to use a drug prescribed by a licensed physician or dentist.

OFFICIAL ADDRESS: Winifred Edwards, D.C., Exec. Sec.
Mississippi Board of Chiropractic Examiners
91 Lakeview Dr.
Clinton, MS 39056

MISSOURI

NAME OF BOARD: Missouri State Board of Chiropractic Examiners.

TYPE OF BOARD: Chiropractic.

LICENSES REQUIRED: Chiropractic.

SUBJECTS EXAMINED: General anatomy, spinal anatomy, hygiene and sanitation, microbiology, physiology, pathology, principles of chiropractic, general diagnosis and practical examination, which includes: deductive reasoning, diagnosis, adjusting, X-ray and Missouri law.

EDUCATION REQUIREMENTS: Sixty credit hours leading to a baccalaureate degree in the sciences from a pre-professional college. Four scholastic years of 9 months each, not less than 4,000 hours in a chiropractic college having status with the Commission on Accreditation of the CCE or the equivalent education criterion thereof as determined by the Board. Senior students within six months of graduation may sit for examination.

SCOPE OF PRACTICE: The practice of chiropractic is defined as the science and art of examination, diagnosis, adjustment manipulation and treatment of malpositions, articulations and structures of the body. The adjustment, manipulations, or treatment shall be directed toward restoring and maintaining the normal neuro-muscular and musculo-skeletal function and health. It shall not include the use of operative surgery, obstetrics, osteopathy, podiatry, nor the administration or the prescribing of any drug or medicine nor the practice of medicine. The practice of chiropractic is declared not to be the practice of medicine and operative surgery or osteopathy within the meaning of chapter 334, RSMO, and not subject to the provisions of the chapter. A licensed chiropractor may practice chiropractic as defined above by those methods commonly taught in any chiropractic college recognized and approved by the Board. Chiropractors may advise and instruct patients in all matters pertaining to hygiene, nutrition, and sanitary measures as taught in any chiropractic college recognized and approved by the Board.

OFFICIAL ADDRESS: Mrs. Kay Sale, Exec. Sec.
State Board of Chiropractic Examiners
P.O. Box 672
Jefferson City, MO 65102-0672

MONTANA

NAME OF BOARD:	Board of Chiropractors.
TYPE OF BOARD:	Chiropractic.
LICENSES REQUIRED:	Chiropractic.
SUBJECTS EXAMINED:	Each applicant must first successfully have taken the national diplomate. Clinical proficiency exams, administered by the Board, are given in the following subjects: orthopedics; physical diagnosis; X-ray interpretation; physiotherapy, and technique.
EDUCATION REQUIREMENTS:	Four years of nine months each from school approved by Board, four years of high school; two academic years of college or university work.
SCOPE OF PRACTICE:	Definition of chiropractic: (1) Chiropractic is the system of specific adjustment or manipulation of the articulations and tissues of the body, particularly of the spinal column, for the correction of nerve interference and includes the use of recognized diagnostic and treatment methods as taught in chiropractic colleges, but does not include surgery or the prescription or use of drugs. (2) Licensed chiropractors may diagnose, palpate, and treat the human body by the application of manipulative, manual, mechanical, and dietetic methods, including chiropractic physiotherapy, the use of supportive appliances, analytical instruments, and diagnostic x-ray in accordance with guidelines promulgated or approved by state or Federal health regulatory agencies.
OFFICIAL ADDRESS:	Mary Lou Garrett, Administrative Officer 1424 9th Ave. Helena, MT 59620-0407

NEBRASKA

NAME OF BOARD:	Nebraska Chiropractic Board of Examiners.
TYPE OF BOARD:	Chiropractic.
LICENSES REQUIRED:	Chiropractic.
SUBJECTS EXAMINED:	Anyone not having taken the national board nor having held a license in another state must be examined in a two-day exam covering: Day 1—anatomy (including embryology), hygiene, roentgenology, orthopedics, physiology, symptomatology (including diagnosis), principles and practice of chiropractic, biochemistry, pathology, and microbiology. Day 2 will consist of a practical examination which includes an oral, written, and a practical (demonstrative) exam. The written, practical examination will con-

sist of the following subjects: general diagnosis (includes physical and lab diagnosis), neuromusculoskeletal diagnosis (includes clinical orthopedics and clinical neurology), and chiropractic physiotherapy. Part II of this oral and demonstrative examination consists of adjusting, palpation, X-ray interpretation and chiropractic principles.

EDUCATION REQUIREMENTS: Four years of nine months, 4,000 hours, chiropractic college; basic science certificate. (As of January 1, 1974, two years of junior college.)

SCOPE OF PRACTICE: For the purpose of this act, the following classes of persons shall be deemed to be engaged in the practice of chiropractic: (1) persons publicly professing to be chiropractors, or publicly professing to assume the duties incident to the practice of chiropractic, and (2) persons who treat human ailments by the adjustment by hand of any articulation of the spine.

OFFICIAL ADDRESS: Department of Health
Bureau of Examining Boards
P.O. Box 95007
Lincoln, NE 68509

NEVADA

NAME OF BOARD: Nevada State Board of Chiropractic Examiners.

TYPE OF BOARD: Chiropractic.

LICENSES REQUIRED: Chiropractic.

SUBJECTS EXAMINED: Any applicant who has never been examined on the basic science subjects by another state, or by the national board, must take a written exam before our Board in anatomy, physiology, chemistry, pathology, bacteriology, hygiene, diagnosis, gynecology, X-ray, principles of chiropractic, associated clinical sciences (which includes geriatrics, obstetrics and jurisprudence), and physiotherapy. All applicants must take an oral, practical and demonstrative examination to cover the following subjects: neurology; orthopedics; physical exam; clinical laboratory procedure and interpretation. Additional subjects the candidate will be examined in are: X-ray technique; positioning and interpretation; nutrition; chiropractic technique, and Nevada law and Board regulations.

EDUCATION REQUIREMENTS: Every applicant for license shall be required to submit evidence of not less than two years education in an accredited college or university, except that an applicant who has passed a basic sciences examination and has been licensed to practice in another

state, and has been in practice for not less than five years shall not be required to comply with this provision.

SCOPE OF PRACTICE:

Chiropractic is defined to be the science, art, and practice of palpating and adjusting the articulations of the human body by hand, the use of physiotherapy, hygienic, nutritive and sanitary measures and all methods of diagnosis. A chiropractor shall not pierce or sever any body tissue, except to draw blood for diagnostic purposes.

OFFICIAL ADDRESS:

Cindy Wade, Office Mgr.
Nevada State Board of Chiropractic Examiners
P.O. Box 20582
Reno, NV 89515

NEW HAMPSHIRE

NAME OF BOARD:

New Hampshire State Board of Chiropractic Examiners and Regulation.

TYPE OF BOARD:

Chiropractic.

LICENSES REQUIRED:

Chiropractic.

SUBJECTS EXAMINED:

Anatomy, physiology, symptomatology, neurology, pathology, histology, hygiene, bacteriology, chemistry, orthopedy, diagnosis, X-ray, principles and practice (clinical competency—physical examination, neurological diagnosis, orthopedic diagnosis, adjusting skills, laboratory diagnosis, X-ray interpretation and diagnosis, differential diagnosis, comprehension of law and rules and regulations in New Hampshire).

EDUCATION REQUIREMENTS:

Graduate of degree granting chiropractic college having status with the CCE.

SCOPE OF PRACTICE:

Any chiropractor who has received and holds a Certificate of Registration and license issued by said Board may adjust by hand any articulations of the vertebral column and its immediate articulations for the restoration and maintenance of health, including the normal regimen and rehabilitation of the patient without the use of drugs or surgery. To also include physical examination, the use of X-ray and other analytical instruments generally used in the practice of chiropractic.

OFFICIAL ADDRESS:

Titus Plomaritis, D.C., Chairman
Bridge St.
Pelham, NH 03076

NEW JERSEY

NAME OF BOARD:	New Jersey State Board of Medical Examiners.
TYPE OF BOARD:	Composite.
LICENSES REQUIRED:	Chiropractic.
SUBJECTS EXAMINED:	Anatomy, physiology, chemistry, pathology, bacteriology, hygiene, non-surgical diagnosis, therapeutics of chiropractic.
EDUCATION REQUIREMENTS:	Two years pre-licensure training and four years of nine months each approved chiropractic college.
SCOPE OF PRACTICE:	A system of adjusting the articulations of the spinal column by manipulation thereof. A licensed chiropractor shall have the right in the examination of patients to use the neurocalometer, X-ray, and other necessary instruments solely for the purpose of diagnosis or analysis. No licensed chiropractor shall use endoscopic or cutting instruments, or prescribe, administer, or dispense drugs or medicine for any purpose whatsoever, or perform surgical operations excepting adjustments of the articulations of the spinal column.
OFFICIAL ADDRESS:	Arnold Cianciulli, D.C. 940 Ave. "C" Bayonne, NJ 07002

NEW MEXICO

NAME OF BOARD:	New Mexico State Board of Chiropractic Examiners.
TYPE OF BOARD:	Chiropractic.
LICENSES REQUIRED:	Chiropractic.
SUBJECTS EXAMINED:	Anatomy, bacteriology, physiology, chemistry, pathology, hygiene and public health, diagnosis, orthopedy, principles and practice of chiropractic, X-ray and orals in X-ray diagnosis and technique.
EDUCATION REQUIREMENTS:	Two years pre-chiropractic, 4,000 hours in college of higher education. Effective January 1, 1978, applicants must be a graduate from a chiropractic college recognized by CCE.
SCOPE OF PRACTICE:	It is the purpose of the Chiropractic Act to grant to chiropractors the right to practice chiropractic as taught and practiced in standard colleges of chiropractic recognized by CCE, and to entitle the holder of a license the right to diagnosis, palpate and treat injuries, deformities and other physical or mental conditions re-

lating to the basic concepts of chiropractic, by use of any methods provided in the Chiropractic Practice Act, such as by application of manipulative, manual and mechanical means, including all natural agencies imbued with the healing act, such as food, water, heat, cold, electricity and drugless appliances, but excluding operative surgery and prescription or use of drugs or medicine, except that X-ray, analytical instruments and routine lab procedures, not involving the penetration of human tissues except for blood testing, may be used for the purpose of examination.

OFFICIAL ADDRESS:

Roy L. Phillips, D.C., Chairman
1210 E. Aztec
Gallup, NM 87301

NEW YORK

NAME OF BOARD:

New York State Board for Chiropractic.

TYPE OF BOARD:

Composite.

LICENSES REQUIRED:

Chiropractic.

SUBJECTS EXAMINED:

Anatomy, chemistry, microbiology, pathology, diagnosis, clinical chiropractic analysis, use and effects of X-ray, practice of chiropractic (national board exams) plus state administered clinical competence exam in clinical diagnosis, diagnostic X-ray, neurological and orthopedic testing and technique.

EDUCATION REQUIREMENTS:

Graduation from an approved chiropractic school following completing of a resident course of study of not less than four years. Candidates who graduated from chiropractic school subsequent to January 1, 1968, must have satisfactorily completed two academic yrs. of study at the college level in a curriculum approved by the education department prior to entering chiropractic school.

SCOPE OF PRACTICE:

The practice of the profession of chiropractic is defined as detecting and correcting by manual or mechanical means structural imbalance, distortion, or subluxations in the human body for the purpose of removing nerve interference and the effects thereof, where such interference is the result of or related to distortion, misalignment or subluxation of or in the vertebral column. A license to practice as a chiropractor shall not permit the holder thereof to use radiotherapy, fluoroscopy, or any form of ionizing radiation, except X-ray, which may be used only as follows: (1) X-ray shall only be used for the purposes of chiropractic analysis; (2) Such use of X-ray shall be confined to persons over the age of 18; and (3) The area of such X-ray exposure shall not extend below the level of the top of the first lumbar vertebrae.

Chiropractic analysis means: the use of diagnosis, to evaluate pathological processes, and the correlation of the findings with an examination of the mechanics of the human body, particularly of the vertebral column, for the determination of etiology, prognosis, and plan of treatment. A license to practice chiropractic shall not permit the holder thereof to treat for any infectious diseases such as pneumonia, any communicable diseases listed in the sanitary code of the State of New York, any of the cardiovascular-renal or cardio-pulmonary diseases, any surgical condition of the abdomen such as acute appendicitis or diabetes, or any benign or malignant neoplasms; to operate; to reduce fractures or dislocations to prescribe, administer, dispense or use in his practice drugs or medicines or to use diagnostic or therapeutic methods involving chemical or biological means; or to utilize therapeutic devices except electrical devices approved by the Board as being essential to the practice of chiropractic.

OFFICIAL ADDRESS:

Philip R. Johnston, Exec. Sec.,
State Board for Chiropractic
State Education Dept.
Cultural Education Center
Albany, NY 12230

NORTH CAROLINA

NAME OF BOARD:

North Carolina State Board of Chiropractic Examiners.

TYPE OF BOARD:

Chiropractic.

LICENSES REQUIRED:

Chiropractic.

SUBJECTS EXAMINED:

national board examination will be used for those without diploma status. Diploma status will be accepted for those candidates who have already passed the national board. All candidates will be given a practical examination consisting of practical application, written examination in X-ray, physical therapy and diagnosis, and oral examination in X-ray pathology.

EDUCATION REQUIREMENTS:

High school; two years college; four years of nine months each in approved chiropractic college.

SCOPE OF PRACTICE:

Definitions: Chiropractic is herein defined to the science of adjusting the cause of disease by realigning the spine, releasing pressure on nerves radiating from the spine to all parts of the body, and allowing the nerves to carry their full quota of health current (nerve energy) from the brain to all parts of the body. Extent and limitation of license: any person obtaining a license from the Board of Chiropractic Examiners shall have the right to practice the science known as chiropractic, in accordance with the method, thought and practice of chiropractors, as taught in

recognized chiropractic schools and colleges, but shall not prescribe for or administer to any person any medicine or drugs, nor practice osteopathy or surgery. Licensed chiropractors may practice in public hospitals. A licensed chiropractor in this state may have access to and practice chiropractic in any hospital or sanitarium in this state that receives aid or support from the public, and shall have access to diagnostic X-ray records and laboratory records relating to the chiropractor's patient. Free choice by patient guaranteed. No agency of the state, county, or municipality, nor any commission or clinic, nor any Board administering relief, social security, health insurance or health service under the laws of the state of North Carolina shall deny to the recipients or beneficiaries of their aid or services the freedom to choose a duly licensed chiropractor as a provider of care or services which are within the scope of practice of the profession of chiropractic as defined in this chapter. Doctor of Chiropractic as Expert: a doctor of chiropractic, for all legal purposes, shall be considered an expert in his field and when properly qualified, may testify in a court of law as to etiology, diagnosis, prognosis, and disability, including anatomical neurological, physiological, and pathological considerations within the scope of chiropractic.

OFFICIAL ADDRESS:

North Carolina State Board of Chiropractic Examiners
720 W. Hargett St.
Raleigh, NC 27603

NORTH DAKOTA

NAME OF BOARD:

North Dakota Board of Chiropractic Examiners.

TYPE OF BOARD:

Chiropractic.

LICENSES REQUIRED:

Chiropractic.

SUBJECTS EXAMINED:

Orthopedics, nutrition, X-ray, obstetrics and gynecology, jurisprudence and practical. Must also have the national boards.

EDUCATION REQUIREMENTS:

Four years of high school, two years of accredited college or university course study, not less than four years of eight months each for 4,000 hours from an accredited school or college of chiropractic.

SCOPE OF PRACTICE:

The practice of chiropractic shall mean the practice of physiotherapy, electrotherapy, and hydrotherapy as taught by chiropractic schools and colleges, and the adjustment of any displaced tissue of any kind or nature, but shall not include prescribing for or administering to any person any medicine or drug to be taken internally which is now or hereafter excluded in materia medica, nor performing any surgery, except as is provided in this section, nor practicing obstetrics.

OFFICIAL ADDRESS: W. V. Schubert, D.C., Pres.
Box 38
Wishek, ND 58495

OHIO

NAME OF BOARD: State Board of Chiropractic Examiners.

TYPE OF BOARD: Chiropractic.

LICENSES REQUIRED: Chiropractic.

SUBJECTS EXAMINED: Anatomy, physiology, chemistry, bacteriology, hygiene, pathology, diagnosis, X-ray, principles and practices of chiropractic, rehabilitative procedures and an oral and practical interview.

EDUCATION REQUIREMENTS: For written examination: high school. Graduation from a chiropractic college approved by the Board. (Minimum 4,000 hours, students initially enrolling in chiropractic college after January 1, 1976, must have at least 60 semester hours or 90 quarter hours in the arts and sciences in a college which meets the accreditation requirements of the Board, prior to enrollment in chiropractic college.

For endorsement of the national board examination: High school. A minimum of 60 semester hours or 90 quarter hours, prior to chiropractic college, in the arts and sciences in a college which meets the accreditation requirements of the Board. Graduation from a chiropractic college approved by the Board. (Minimum 4,000 hours.) Satisfactory completed Parts I and II of the national board examinations, including physiotherapy.

SCOPE OF PRACTICE: The chiropractor is to be considered a primary care or primary health care provider. The practice of chiropractic is the utilization of the relationship between the musculoskeletal structures of the body, the spinal column and the nervous system, in the restoration and maintenance of health, in connection with which patient care is conducted with due regard for first aid, hygienic, nutritional, and rehabilitative procedures and the specific vertebral adjustment and manipulation of the articulations and adjacent tissues of the body. The chiropractor is entitled to use the title *doctor* or *doctor of chiropractic* and is a physician for the purpose of the State Welfare and Bureau of Worker's Compensation Programs. The use of X-ray for diagnostic purposes is permitted. The use of acceptable clinical and laboratory diagnostic procedures is permitted. The use of first aid, hygienic, nutritional and rehabilitative procedures is permitted. The spinal adjustment and manipulation of the articulations and adjacent tissues of the body, including the extremities is permitted. The practice of chiropractic does not permit the prescribing or administering of

drugs for treatment. The chiropractor is authorized to examine, diagnose and assume responsibility for the care of patients.

OFFICIAL ADDRESS:

Ohio State Board of Chiropractic Examiners
Ralph H. Beery, Jr., D.C., Exec. Sec.
200 E. Town St.
Columbus, OH 43215

OKLAHOMA

NAME OF BOARD:

Oklahoma Board of Chiropractic Examiners.

TYPE OF BOARD:

Chiropractic.

LICENSES REQUIRED:

Chiropractic.

SUBJECTS EXAMINED:

Anatomy, physiology, pathology, symptomatology, diagnosis, adjusting, chiropractic principles, bacteriology, chemistry, dietetics, gynecology, histology, hygiene and sanitation, jurisprudence, orthopedic, roentgenology and physiotherapy, laboratory diagnosis, public health service.

EDUCATION REQUIREMENTS:

4,150 hours of 45 minutes. Those enrolling in chiropractic school after January 1, 1960 must have two years of college.

SCOPE OF PRACTICE:

Chiropractic is hereby defined to be the science that teaches health in anatomic relation and disease or abnormality in anatomic disrelation, and includes hygienic and sanitary measures incident thereto. May use hygienic and sanitary measures incident to the practice of chiropractic. May use vitamins, minerals and nutritional supplements administered orally. May withdraw blood hypodermically from arm or other part of human body for Wasserman and similar tests.

OFFICIAL ADDRESS:

Kent Carder, D.C. Pres.
1008 Rock Island Ave.
El Reno, OK 73036

OREGON

NAME OF BOARD:

Oregon State Board of Chiropractic Examiners.

TYPE OF BOARD:

Chiropractic.

LICENSES REQUIRED:

Chiropractic.

SUBJECTS EXAMINED:

Basic science subjects of anatomy, physiology, chemistry, pathology and public health and hygiene; also the clinical subjects of physical diagnosis, differential diagnosis, laboratory diagnosis,

theory and practice of chiropractic nutrition and dietetics, physiotherapy, electrotherapy, hydrotherapy, chiropractic orthopedics, written and practical roentgenology, eye-ear-nose-throat, proctology, obstetrics and gynecology, minor surgery, jurisprudence, psychology, office procedure.

EDUCATION REQUIREMENTS: Two years of arts and sciences before four years chiropractic college.

SCOPE OF PRACTICE: Board means the State Board of Chiropractic Examiners. Chiropractic is defined as: (a) That system of adjusting with the hands the articulations of the bony framework of the human body, and the employment and practice of physiotherapy, electrotherapy, hydrotherapy, and minor surgery. (b) The chiropractic diagnosis, treatment and prevention of body dysfunctions; correction, maintenance of the structural and functional integrity of the neuromusculo-skeletal system and the effects thereof or interferences therewith by the utilization of all recognized and accepted chiropractic diagnostic procedures and the employment of all rational therapeutic measures as taught in approved chiropractic colleges. Drugs means all medicines and preparations and all substances, except food, water and nutritional supplements taken orally, used or intended to be used for the diagnosis, cure, treatment, mitigation or prevention of diseases or abnormalities of man, which are recognized in the latest additions of the official United States Pharmacopeia, official homeopathic pharmacopoeia, official National Formulary, or any supplement to any of them, or otherwise established as drugs. No person practicing under this chapter shall administer or write prescriptions for, or dispense drugs, practice optometry or naturopathy or do major surgery. Minor Surgery means the use of electrical or other methods for the surgical repair and care incident thereto of superficial lacerations & abrasions, benign superficial lesions, and the removal of foreign bodies located in the superficial structures; and the use of antiseptics & local anesthetics in connection herewith.

OFFICIAL ADDRESS: Board of Chiropractic Examiners
P.O. Box 20455
Portland, OR 97220

PENNSYLVANIA

NAME OF BOARD: Pennsylvania State Board of Chiropractic Examiners.

TYPE OF BOARD: Chiropractic.

LICENSES REQUIRED: Chiropractic.

SUBJECTS EXAMINED: Anatomy, physiology, hygiene and sanitation, chiropractic principles and practice, diagnosis, X-ray, pathology, chemistry, bacteriology, demonstration of technique.

EDUCATION REQUIREMENTS: Two years pre-professional college, four years chiropractic college (4,000 hours).

SCOPE OF PRACTICE: Chiropractic shall mean a limited science of the healing arts dealing with the relationship between the articulations of the vertebral column, as well as other articulations and the nervous system and the role of these relationships in the restoration and maintenance of health. It shall include chiropractic diagnosis, a system of locating misaligned or displaced vertebrae of the human spine and other articulations, the examination preparatory to and the adjustment of such misaligned or displaced vertebrae, and other articulations, the furnishing of necessary patient care for the restoration and maintenance of health and in the use of scientific instruments of analysis, as taught in the approved schools and colleges of chiropractic, without the use of either drugs or surgery. The term chiropractic shall not include the practice of obstetrics or reduction of fractures or major dislocations.

OFFICIAL ADDRESS: Department of State, Bureau of Professional and Occupational Affairs
P.O. Box #2649
Harrisburg, PA 17105

Attn.: Ms. Kathy McLinn, Corres. Sec.

RHODE ISLAND

NAME OF BOARD: Rhode Island State Board of Chiropractic Examiners.

TYPE OF BOARD: Chiropractic.

LICENSES REQUIRED: Chiropractic.

SUBJECTS EXAMINED: Anatomy, chemistry, pathology, first aid, theory and practice, x-ray, gynecology, hygiene and sanitation, practice of chiropractic, technique of chiropractic, dietetics, histology and embryology, spinal analysis, clinical diagnosis, physical diagnosis and lab diagnosis.

EDUCATION REQUIREMENTS: High school; two years pre-professional college; graduate of accredited chiropractic college.

SCOPE OF PRACTICE: For the purpose of this chapter, the practice of chiropractic is defined to be the science and art of mechanical and material healing as follows: the employment of a system of palpating and adjusting the articulations of the human spinal column and its appendages, by hand and electro-mechanical appliances, and the employment of corrective orthopedics and dietetics for the elimination of the cause of disease. Every person desiring to practice physiotherapy in addition to chiropractic (a) shall have completed a course of four years, of eight months each, in some

school of chiropractic approved by the division, or (b) shall have completed a course of three (3) years, of nine months each, at some school of chiropractic approved by the division and an additional year, of at least six months, in physiotherapy and all branches thereof, at such a school.

OFFICIAL ADDRESS: Robert W. McClanaghan, Division of Profession Regulation
104 Cannon Bldg.
Davis Street
Providence, RI 02908

SOUTH CAROLINA

NAME OF BOARD: South Carolina Board of Chiropractic Examiners.

TYPE OF BOARD: Chiropractic.

LICENSES REQUIRED: Chiropractic.

SUBJECTS EXAMINED: Anatomy, chemistry, physiology, pathology, bacteriology hygiene, public health, toxicology, diagnosis, jurisprudence and ethics, technique, X-ray and chiropractic philosophy.

EDUCATION REQUIREMENTS: Two years pre-professional college and must have graduated from CCE accredited college, or college having candidate status with CCE or equivalent accrediting agency.

SCOPE OF PRACTICE: Chiropractic is that science and art which utilizes the inherent recuperative powers of the body and deals with the relationship between the nervous system and the spinal column, including its immediate articulations and the role of this relationship in the restoration and maintenance of health.

Doctors of chiropractic shall limit their practice to the care and performance of therapeutic treatment of patients, the performance of such procedures as are normally followed in giving chiropractic physical examinations, X-ray, and such other procedures as are generally used in practice.

Also, the use of diagnostic and therapeutic procedures, the adjustment and manipulation of articulations and the adjustment and manipulation of articulations and treatment of inter-segmental disorders for alleviation of related neurological aberrations. Care shall be conducted with due regard for environmental hygiene, sanitation, rehabilitation and physiological therapeutic procedures designed to assist in the restoration and maintenance of neurological integrity of the nervous system.

OFFICIAL ADDRESS: Richard C. Mooneyham, D.C., Chmn.
1655 Broad River Rd.
Columbia, SC 29210

SOUTH DAKOTA

NAME OF BOARD: South Dakota State Board of Chiropractic Examiners.

TYPE OF BOARD: Chiropractic.

LICENSES REQUIRED: Chiropractic.

SUBJECTS EXAMINED: Physiotherapy, laboratory, roentgen interpretation, manipulation (spinal and extra-spinal), diet, meridian therapy, office procedures, vitamins and nutritional supplements, anatomy, bacteriology, physiology, chemistry, pathology, histology, gynecology, symptomatology, hygiene and public health, diagnostic X-ray principles and practice of chiropractic, and acupuncture.

EDUCATION REQUIREMENTS: Four years and nine months each chiropractic college and two years of pre-professional college.

SCOPE OF PRACTICE: Chiropractic is hereby defined to be the science of locating and removing the cause of any abnormal transmission of nerve energy, including diagnostic and externally applied mechanical measures incident thereto. Chiropractors shall not be entitled to practice obstetrics or treat communicable diseases.

OFFICIAL ADDRESS: John S. Nelson, D.C. Pres.
106 E. Grant
Spearfish, SD 57583

TENNESSEE

NAME OF BOARD: Tennessee State Board of Chiropractic Examiners.

TYPE OF BOARD: Chiropractic.

LICENSE REQUIREMENTS: Chiropractic.

SUBJECTS EXAMINED: Nutrition, physiotherapy, X-ray, neurological and orthopedics, chiropractic practical, clinical diagnosis and jurisprudence.

EDUCATION REQUIREMENTS: Two years of college required after October 1, 1975. Prior to that date, high school diploma. Parts I and II of national board.

SCOPE OF PRACTICE: The practice and procedures shall include procedures of palpation examination of the spine and chiropractic clinical findings accepted by the Tennessee Board of Chiropractic Examiners as a

basis for the adjustment of the spinal column and adjacent tissues for the correction of nerve interference and articular dysfunction. Patient care shall be conducted with due regard for nutrition, environment, hygiene, sanitation and rehabilitation designed to assist in the restoration and maintenance of neurological integrity and homeostatic balance.

OFFICIAL ADDRESS: Board of Chiropractic Examiners
Tennessee Dept. of Public Health
State Office Bldg.
Ben Allen Rd.
Nashville, TN 37216

TEXAS

NAME OF BOARD: Texas Board of Chiropractic Examiners.

TYPE OF BOARD: Chiropractic.

LICENSES REQUIRED: Chiropractic.

SUBJECTS EXAMINED: Practical and theoretical chiropractic, anatomy physiology, symptomatology, X-ray, pathology, analysis of the human spine, hygiene and public health, chemistry and bacteriology.

EDUCATION REQUIREMENTS: Two years academic work plus four years of chiropractic college.

SCOPE OF PRACTICE: Any person shall be regarded as practicing chiropractic within the meaning of this act who shall employ objective or subjective means without the use of drugs, surgery, X-ray therapy, or radium therapy, for the purpose of ascertaining the alignment of the vertebrae of the human spine, and the practice of adjusting the vertebrae to correct any subluxations or misalignment thereof, and charge therefore, directly or indirectly, money or other compensation, or who shall hold himself out to the public as a chiropractic or shall use either the term chiropractor, chiropractic, doctor of chiropractic, or any derivative of the above in connection with his name.

OFFICIAL ADDRESS: Edna A. Parsons, Exec. Sec.
1300 E. Anderson Ln.
Bldg. C, Suite 245
Austin, TX 78752

UTAH

NAME OF BOARD: Utah State Chiropractors Examining Committee.

TYPE OF BOARD: Chiropractic.

LICENSES REQUIRED:	Chiropractic, national board.
SUBJECTS EXAMINED:	Anatomy, chemistry and physiology, bacteriology, pathology and histology, analysis (diagnosis), gynecology, pediatrics, neurology, eye, ear, nose and throat, jurisprudence, skin venereal diseases and hygiene, practice of chiropractic and orthopedy, clinic.
EDUCATION REQUIREMENTS:	Requirements for graduation subsequent to June 30, 1926: must be graduate of professional school, college or institution teaching the system of treating human ailments for which applicants desire to be licensed, in good standing at time of graduation, which required at least 4,000 class hours in subjects required in such school and must be graduate of high school attendance through four years being equal to fifteen units, and have completed 2 years of liberal arts college approved by department.
SCOPE OF PRACTICE:	There does not appear to be a statutory definition of chiropractic in Utah. Examination of the Utah statutes and of certain Utah cases indicates chiropractic is not considered a separate healing art but rather a limited part of the practice of medicine. Chiropractors are licensed to practice, "Without the use of drugs or medicines and without operative surgery."
OFFICIAL ADDRESS:	Morris c. Stout Division of Registration Room 500, State Office Building Salt Lake City, UT 84114

VERMONT

NAME OF BOARD:	Vermont State Board of Chiropractic Examination and Registration.
TYPE OF BOARD:	Chiropractic.
LICENSES REQUIRED:	Chiropractic.
SUBJECTS EXAMINED:	Anatomy, physiology, diagnosis, hygiene, orthopedics, neurology, histology, pathology, principles, adjusting, chemistry, X-ray, bacteriology, spinal analysis.
EDUCATION REQUIREMENTS:	High school, two years pre-professional college and 4,400 hours at chiropractic college.
SCOPE OF PRACTICE:	A chiropractic physician is a physician who specializes in that branch of the healing arts which considers man as an integrated whole. The practice of chiropractic must consist of the process of diagnosis and treatment of human ailments for both cause and/or prevention of disease.

The chiropractic physician shall enjoy the same privileges as all other primary health care providers, to include but not to be limited to diagnostic X-ray, laboratory procedures and research. Methods of treatment may include: articular manipulation; spinal adjustments; physical therapeutics; meridian therapy, and nutritional counseling and all other means consistent with this provision as taught in the various chiropractic colleges that are accredited or are a recognized candidate for accreditation by the official chiropractic accrediting agency approved by the United States Office of Education or its successor.

OFFICIAL ADDRESS: Michael F. Billig, D.C. Pres.
56 Portland St.
St. Johnsbury, VR 05819

VIRGINIA

NAME OF BOARD: The Virginia Board of Medicine.

TYPE OF BOARD: Composite.

LICENSES REQUIRED: Chiropractic.

SUBJECTS EXAMINED: Anatomy, physiology, biochemistry, pathology, bacteriology, chiropractic philosophy and practice, jurisprudence and therapeutics.

EDUCATION REQUIREMENTS: Graduate of CCE approved chiropractic college; two years of pre-professional college. Part I of the national board may be used as a waiver of Part I of Flex examinations which is given in Virginia; chiropractic member complies and gives Parts II and III.

SCOPE OF PRACTICE: The healing arts means the art or science or group of arts or sciences dealing with the prevention, diagnosis, treatment and cure or alleviation of human physical or mental ailments, conditions, diseases, pain or infirmities. Practice of chiropractic means the adjustment of the twenty-four movable vertebrae of the spinal column, and assisting nature for the purpose of normalizing the transmission of nerve energy. It does not include the use of surgery, obstetrics, osteopathy, nor the administration nor prescribing of any drugs, medicines, serums or vaccines.

OFFICIAL ADDRESS: James W. Walker, D.C.
1932 Arlington Blvd.
Charlottesville, VA 22903

WASHINGTON

NAME OF BOARD: Washington State Board of Chiropractic Examiners.

TYPE OF BOARD:	Chiropractic.
LICENSES REQUIRED:	Chiropractic; basic science.
SUBJECTS EXAMINED:	Principles and practice, neurology, spinal pathology, symptomatology, written and practical technique and X-ray.
EDUCATION REQUIREMENTS:	Graduate of approved chiropractic college of 4,000 classroom hours. Those matriculating after January 1, 1975, need two years pre-professional college. Applicants must apply at least 45 days prior to exam date.
SCOPE OF PRACTICE:	The term, chiropractic, shall mean and include that practice of health care which deals with the detection of subluxations, which shall be defined as any alteration of the biomechanical and physiological dynamics of contiguous spinal structures which can cause neuronal disturbances, the chiropractic procedure preparatory to and complementary to the correction thereof, by adjustment or manipulation of the articulations of the vertebral column and its immediate articulations for the restoration and maintenance of health; it includes the normal regimen and rehabilitation of the patient, physical examination to determine the necessity for chiropractic care, the use of X-ray and other analytical instruments generally used in the practice of chiropractic. "Provided that no chiropractor shall prescribe or dispense any medicine or drug nor practice obstetrics or surgery, nor use x-rays for therapeutic purposes; PROVIDED, HOWEVER, that the term chiropractic as defined in this act shall not prohibit a practitioner licensed under ROW 18.71 from performing accepted medical procedures, except such procedures shall not include the adjustment by hand of any articulation of the spine; AND, PROVIDED FURTHER, that nothing herein shall be construed to prohibit the rendering of dietary advice."
OFFICIAL ADDRESS:	Division of Professional Licensing Chiropractic Section P.O. Box 9649 Olympia, WA 98504

WEST VIRGINIA

NAME OF BOARD:	West Virginia Board of Chiropractic Examiners.
TYPE OF BOARD:	Chiropractic.
LICENSES REQUIRED:	Chiropractic.
SUBJECTS EXAMINED:	Anatomy, histology, physiology, pathology, symptomatology, physical diagnosis, hygiene, sanitation, chemistry, bacteriology,

chiropractic philosophy, chiropractic analysis, nerve tracing, palpation, and the art of adjusting.

EDUCATION REQUIREMENTS: High school; two years college; four years chiropractic school.

SCOPE OF PRACTICE: The practices and procedures which may be employed by doctors of chiropractic are based on the academic and clinical training received in and through accredited chiropractic colleges. These shall include the use of diagnostic, analytical and therapeutic procedures specifically including the adjustment and manipulation of the articulations and adjacent tissues of the human body, particularly of the spinal column; included is the treatment of intersegmental disorders for alleviation of related neurological aberrations. Patient care and management is conducted with due regard for environment and nutritional factors, as well as first aid, hygiene, sanitation, rehabilitation and physiological therapeutic procedures designed to assist in the restoration and maintenance of neurological integrity and homeostatic balance.

OFFICIAL ADDRESS: Lowell Williams, D.C.
102 Central Ave.
Moorefield, WV 26836

WISCONSIN

NAME OF BOARD: Wisconsin Chiropractic Examining Board.

TYPE OF BOARD: Chiropractic.

LICENSES REQUIRED: Chiropractic.

SUBJECTS EXAMINED: Physiology, pathology, symptomatology, neurology principles and practice, hygiene and sanitation, spinograph, practical x-ray interpretation and technique. May accept national board in lieu of our own examination plus practical in either case.

EDUCATION REQUIREMENTS: Two years of pre-chiropractic college; 36 months, 3,600 class periods (of 60 minutes each) of chiropractic college.

SCOPE OF PRACTICE: Following is from the Board of Regulations. The analysis may include X-ray, analytic and diagnostic instruments. May use relaxing adjuncts such as heat lamps and hot towels preparatory to the adjustment. Dietary advice and supplementary foods in the original container may be used, but not prescribed as treatment for special diseases. The use of instruments in themselves, such as: colonic irrigatory; diathermy; plasmatic; short wave; radionics; ultrasonic, and others are outside of the scope of practice (list is illustrative, not inclusive).

OFFICIAL ADDRESS: Loyall c. Allen, D.C. Chmn.
300 Macomber
Chippewa Falls, WI 54729

WYOMING

NAME OF BOARD: Wyoming State Board of Chiropractic Examiners.

TYPE OF BOARD: Chiropractic.

LICENSES REQUIRED: Chiropractic.

SUBJECTS EXAMINED: Principles and practice of chiropractic; sanitation and hygiene, anatomy, physiology, symptomatology, diagnosis, chiropractic, orthopedy, pathology, urinalysis, public health, X-ray and radiation hazards and physiotherapy. In addition, the applicant must also give a clinical demonstration of vertebrae palpation, nerve tracing and adjusting, satisfactory to the Board.

Additional subjects may be prescribed from time to time by the Board to meet with new conditions.

EDUCATION REQUIREMENTS: At least two years of pre-professional and four years of chiropractic college.

SCOPE OF PRACTICE: Chiropractic is a method of palpation, nerve tracing and adjustment of vertebrae and other tissues for the relief of morbid conditions. Chiropractic is a science that teaches health in anatomic relation and disease or abnormality in anatomic disrelation, and teaches the act of restoring anatomic relation by process of adjusting. Chiropractic practitioners shall observe and be subject to all state and municipal regulations relating to the control of contagious and infectious diseases, shall be permitted to sign death certificates, and shall, as to any and all matters pertaining to public health, report to the proper health officers the same as other practitioners.

OFFICIAL ADDRESS: C. C. Davis, D.C. Pres.
412 E. Park
Riverton, WY 82501

CANADIAN CHIROPRACTIC LICENSING BOARDS

Canadian Chiropractic Licensing Board

Established in 1963, the examinations set by this National Board are accepted by Provincial Chiropractic Examining Boards and the standards approved by the University of Saskatchewan.

SUBJECTS EXAMINED: Anatomy (including histology and embryology), physiology, pathology, diagnosis and symptomatology, hygiene and sanitation,

bacteriology, roentgenology, chemistry, neurology, chiropractic principles and philosophy, chiropractic technique.

EDUCATION REQUIREMENTS: Graduate of an approved chiropractic college. Application in by March 1st.

CANADIAN PROVINCIAL CHIROPRACTIC LICENSING BOARDS

ALBERTA

NAME OF BOARD: Alberta Chiropractic Appraisal Board and Alberta Chiropractic Association.

TYPE OF BOARD: Government plus Association.

LICENSES REQUIRED: Chiropractic.

EDUCATION REQUIREMENTS: Graduate of an accredited chiropractic college and a resident of Canada.

OFFICIAL ADDRESS: J. R. Carter, D.C., Examination Chairman
The Canadian Federation of Chiropractic Regulatory Boards
14th Avenue, NW
Calgary, Alberta T2N 1M7

ONTARIO

NAME OF BOARD: Board of Directors of Chiropractic.

TYPE OF BOARD: Chiropractic with Lay Representative.

LICENSES REQUIRED: Chiropractic.

SUBJECTS EXAMINED: Papers of the Canadian Chiropractic Examining Board are accepted in Ontario. In addition, provincial examinations in the following subjects are required: principles of practice, technique and treatment.

See Canadian Chiropractic Examining Board and add the following: principles of practice, technique and treatment.

EDUCATION REQUIREMENTS: Ontario Grade XIII high schooling or comparable standing as determined by the Ontario Ministry of Education. Four years of 9 months in a CCE accredited chiropractic college or CMCC.

OFFICIAL ADDRESS: S. W. Stolarski, D.C., Ex. Sec; Mrs. M. Vechiola, Asst. Sec.
Board of Directors of Chiropractic
20 Prince Arthur Ave. Ste. 15D
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BRITISH COLUMBIA

NAME OF BOARD:	British Columbia Chiropractic Association.
TYPE OF BOARD:	Chiropractic.
LICENSES REQUIRED:	National Registration plus Chiropractic.
SUBJECTS EXAMINED:	See Canadian Chiropractic Examining Board.
EDUCATION REQUIREMENTS:	Two years in a Canadian university or equivalent; four years of eight months each in a recognized chiropractic college.

NEW BRUNSWICK

NAME OF BOARD:	New Brunswick Chiropractors' Association.
TYPE OF BOARD:	Chiropractic.
LICENSES REQUIRED:	Chiropractic.
SUBJECTS EXAMINED:	See Canadian Chiropractic Examining Board.
EDUCATION REQUIREMENTS:	Graduate of chiropractic college approved by the Board. Must have passed senior matriculation exam or equivalent.

NOVA SCOTIA

NAME OF BOARD:	Examining Board of Nova Scotia Board of Chiropractors.
TYPE OF BOARD:	Chiropractic.
LICENSES REQUIRED:	Chiropractic.
EDUCATION REQUIREMENTS:	Graduation from a chiropractic college with accredited CCE status, if other than CMCC in Toronto. Canadian or U.S. national board certificates, practical and clinical examination in all cases.
OFFICIAL ADDRESS:	G. Robert Tharp, D.C., Chairman of Examiners 6080 Young St., Suite 309 Halifax NS. B3K 5L2

SASKATCHEWAN

NAME OF BOARD:	The Chiropractors' Association of Saskatchewan.
TYPE OF BOARD:	Chiropractic.

LICENSES REQUIRED: Chiropractic.

SUBJECTS EXAMINED: See Canadian Chiropractic Examining Board.

EDUCATION REQUIREMENTS: Two years post-secondary in sciences. Four years of eight months.

OFFICIAL ADDRESS: R. A. Milne, D.C., Registrar
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APPENDIX VII

GLOSSARY

abduct: To draw away from the midline, from the normal position of a bone or muscle, or from an adjacent part of the limb.

adjustment: Chiropractic adjustment is a specific form of direct, articular manipulation utilizing a short lever and characterized by a dynamic, forceful, high-velocity thrust of controlled amplitude. It is a technique to correct a subluxation.

afferent: Bringing inward to a central part or organ, as nerves that conduct impulses from the body periphery to the spinal cord.

allopathy: The treatment of disease by drugs that produce effects different from or opposite to those the disease causes.

arthritis—osteoarthritis: Degenerative joint disease, hypertrophic arthritis, arthrosis; a noninfectious degeneration of freely movable joints with loss of integrity of the cartilage and proliferative bony changes termed exostosis, spurring, lipping, or osteophytes.

arthritis—spondyloarthrosis: Degenerative joint disease involving both the vertebral body and the zygapophysis.

arthritis—spondylosis: Degeneration of the intervertebral disc with attendant proliferative changes of the margins of the vertebral body.

arthrodynia (arthralgia): Pain in a joint.

autonomic nervous system: The sympathetic and parasympathetic divisions of the vertebrate nervous system that regulate involuntary action, as of the intestines, glands, heart, etc.

basic technique: A chiropractic approach according to which correction of the sacrum is considered of primary importance.

brachial trajectory: Brachial refers to the arm or a homologous part; trajectory is the path of a moving particle or body, especially in three dimensions. *Brachial trajectory* means following the pathways of the brachial plexus.

bursitis: Inflammation of a bursa, often with demonstrable calcium deposition (calcific bursitis). A bursa is a sack-like cavity found or formed between joints or at points of friction between moving structures.

capsulitis: Inflammation of the capsule of an organ or part; if characterized by adhesions, adhesive capsulitis.

cervico-occipital neuralgia: Neuralgia in the upper cervical nerves, especially in the posterior division of the second cervical neck nerve.

chiropractic is concerned with the relationship between the nervous system and the spinal column, and the role of this relationship in health. Chiropractors *analyze* interference with normal nerve transmission and expression and attempt to correct it by adjusting the articulations of the vertebral column. Chiropractors perform manipulations to restore and maintain health; they rely on the body's recuperative power and eschew drugs or surgery. Chiropractic *analysis* includes physical examination and the use of X-ray and other diagnostic tools.

(From Dorland's Medical Dictionary, 24th Edition)

A system of therapeutics based upon the claim that disease is caused by abnormal function of the nerve system. It attempts to restore normal function of the nerve system by manipulation and treatment of the structures of the human body, especially those of the spinal column.

Note: Liberal chiropractors are those who use various medical modalities in addition to performing spinal adjustments. Conservatives are those practitioners who employ only spinal adjusting therapy.

CNS—Central Nervous System

chiropractic analysis: Means of assessing disharmonies, especially along the spinal column and its attachments, which include physical and clinical diagnosis.

cineroentgenograph: The production of moving X-ray pictures.

congenital: Existing at, and usually before, birth. May be either hereditary or due to some influence occurring during gestation.

contusion: An injury that does not break the skin; a bruise or bruising of tissue with or without ecchymosis.

cybernetics: The comparative study of control processes in electronics and mechanical and biological systems, especially the mathematical analysis of information flow in such systems; the science of control and communications in the animal and the machine.

discogenic: Caused by derangement of an intervertebral disc.

discopathogenic: Abnormal action or function of a vertebral disc resulting in a disorder or an abnormal condition; originating because of disc degeneration.

discopathy: Any pathological changes in a disc.

disease: An abnormal condition of an organism or part, especially as a consequence of infection, inherent weakness, or environmental stress, that impairs normal physiological functioning.

dynamics: (1) That phase of mechanics that deals with the motion of material bodies taking place under different specific conditions; (2) The science of actions of forces in producing motion or equilibrium (including statics, kinetics). Of or pertaining to energy, force, or motion in relationship to force. Characterized by or tending to produce continuous change or advance.

dysarthrosis: Deformity or malformation of a joint.

dyskinesia: Impairment of the power of voluntary movement, resulting in fragmentary incomplete or movements.

efferent: Carrying or carried away from a central part or organ (as opposed to afferent). For example, carrying impulses from the central nervous system to the effector.

esthesia: The ability to receive sensory impressions.

extension: A stretching movement that brings the members of a limb into or toward a straight position.

extension or reflex neuralgia: Pain radiating along the course of a somatic sensory nerve but referred from another source in the specific neuromere. Often differentiated from radiculitis in that it may not follow a specific dermatome.

exteroceptor: A sensory nerve terminal that is stimulated by the immediate external environment, such as those in the skin and mucous membranes.

Fahers sign: A test for hip joint dysfunction. Its name derives from the first letters of the words for the involved movements: *flexion*, *abduction*, *external rotation*, and *extension*.

fasciculus: A bundle of nerve or muscle fibers, especially having a common function and connection. Here it is used in reference to the central nervous system.

fibrillation: A small, local contraction of muscles resulting from spontaneous activation of single muscle cells or fibers. *ventricular f.:* Fine fibrillar movements so rapid that normal contraction of the ventricles cannot occur.

fibrositis: Inflammatory hyperplasia of fibrous tissue, particularly of the muscle sheaths and facial layers. Also called muscular rheumatism. If the condition is noninflammatory, it is called fibrosis. Periarticular fibrosis or fibrositis involves the ligaments or other connective tissues surrounding a joint. Myofibrosis or myofibrositis, if involvement is of the musculature proper.

flaccid: Weak, lax, soft.

flexion: The act of bending or condition of being bent.

flexure: A curved position or the bending of a part.

foramen: A natural opening or passage, especially into or through a bone. (*Foramina* are openings between two vertebrae)

foramen magnum: The large opening in the base of the skull through which the spinal cord passes to become continuous with the medulla oblongata.

functional: Pertaining to the natural or proper action for which a person, office, mechanism, or organ is fitted or employed; assigned duty or activity. Pertaining to the function or action of an organ; not structural, affecting functions only. Joint mechanics showing area disturbances of function without structural change; subtle joint dysfunctions affecting quality and range of joint motion, with no obvious attending tissue changes. *Functional anomalies* are diagnosed with the aid of motion-palpation, stress, and motion-radiography investigation. They are the best indication of altered joint physiology and are usually completely reversible. Nothing is out of place; thus there is no subluxation

or misalignment in the medical sense. There will be fixation (usually partial) and erratic motion within the normal range of joint movement.

funicular: Of or pertaining to a cordlike structure or part, especially a bundle of nerve fibers in the nerve trunk.

funiculitis: (1) Inflammation of a funiculus, especially of the spermatic cord; (2) inflammation of that portion of a spinal nerve that lies within the intervertebral canal.

ganglion: A group of nerve cells bodies located outside the brain or spinal cord in vertebrates. Pathologically, a cystic lesion resembling a tumor in a tendon sheath or joint capsule.

geriatrics: The medical study of the physiology and pathology of old age.

gluteus maximus: Gluteus medius—rotates and abducts the thigh (gluteus minimus abducts the thigh; gluteus maximus extends the thigh). Generally, the large muscle of the buttock that has to do with locomotion.

gnosis: A suffix meaning knowledge. As a noun it refers to intuitive apprehension of spiritual truths, hence knowledge or recognition (*prognosis*).

hemiplegia: Paralysis of one side of the body only.

herpes: Any of several viral diseases causing eruptions of the skin or the mucous membrane, especially herpes simplex or herpes zoster. Simplex is viral infection with blistering of the lips, external nares, glans, prepuce, or vulva. Zoster is eruption of vesicles along the nerve path on one side of the body, often accompanied or followed by severe neuralgia, also called shingles.

HIO: Hole-in-one, a manipulative technique introduced by B. J. Palmer and today known as the toggle-recoil adjustment. Proponents consider this maneuver to reestablish atlas/occiput/axis alignment as the sole chiropractic adjustment method.

homeostasis: A state of physiological equilibrium produced by a balance of functions and of chemical composition within an organism; thus the ability of the body to maintain and continue life.

hypalgesia: Diminished sense of pain.

hyperactive: Overly active.

hyperesthesia: Abnormal sensitivity of the skin or sense organs.

hypermetria: Exaggeration of a part on movement giving an excessive range of motion.

Intervertebral Disc space.

I.V.D.S.: Intervertebral Disc Syndrome.

infarct: A necrotic change in tissue caused by insufficiency of blood to the part because of a clot or some other obstruction of circulation.

innate intelligence: The intrinsic biological ability of a healthy organism to react physiologically to the changing conditions of the external and internal environment. Possibly derived from *vis medicatrix naturae*: possessed at birth; inborn.

intervertebral disc syndrome: Protrusion, herniation, or prolapse of intervertebral disc with concomitant neurological findings.

intervertebral dysarthria: Pain in the intervertebral joint. Similar to intersegmental dysarthria. It can be acute or chronic.

intersegmental dysarthria: Pain within two or more segments of a joint. It can be acute or chronic.

intervertebral motor unit: The anatomical elements uniting two adjacent vertebrae, including disc, all ligaments, and soft tissues in which neurological elements are found. Under patho-mechanics these neurological elements generate neuropathogenic reflexes. Since visualization of osseous structure is the only means of determining the status of the motor unit, it would be appropriate to include such structures in any discussion of the motor unit.

kyphosis: Abnormal curvature of the spine with posterior convexity. Also called humpback or hunchback.

lesion: A wound or injury; a circumscribed pathological alteration of tissue or a point or patch of skin disease. A pathological insult that causes a loss of function.

listing: Designation of the spatial orientation of vertebrae in relation to adjacent segments, e.g., rotational or flexion malposition.

LMNL: Lower Motor Neuron Lesion.

lordosis: An abnormal forward curvature of the spine in the lumbar region, also called *lordoma*. A convex, forward curvature of the spine.

LSR: Lower Spinal Reflex.

manipulation: To operate or control by skilled use of the hands. A maneuver employing active, passive, and resistive movement of the body without the use of a dynamic thrust, aimed at remobilizing parts of the vertebral column by working them with the hands.

meric system: The treatment of visceral conditions through adjustment of vertebrae at the levels of neuro-meric innervation to the organs involved.

muscular spasm: An involuntary contraction of a muscle; *tonic* if persistent, *clonic* if alternating.

myasthenia gravis: A syndrome of severe, muscle weakness due to a disorder of neuromuscular transmission (progressive).

myelo—: A prefix used in reference to the spinal cord and to denote relationship to bone marrow.

myofascitis: Inflammation of a muscle and its fascia.

myofibrosis: Replacement of muscle tissue by fibrous tissue.

myositis: Inflammation of a voluntary muscle. *Myositis ossificans:* myositis characterized by bony deposits or ossification of muscles.

nerve tracing: A method of tracing tenderness along the peripheral sensory extensions of spinal nerves back to the spinal level of subluxation, employed since the beginning of chiropractic and not unlike the tracing of tenderness for a radiating neuralgia.

neuralgia: paroxysmal pain usually extending along the course of one or more nerves; extension or reflex neuralgia is a common type.

neuralgia—paroxysmal: Pain extending along the course of one or more nerves.

neuritis: Inflammation of a nerve, usually of a degenerative nature. Types include mechanical, toxic, metabolic, and vascular. Neuritis is attended by pain, diminished reflexes, and muscular atrophy.

neurodystrophic processes: The production of diseases in various organs by irritating the central nervous system. Malnutrition of tissues caused by the nervous system that may occur in all organs and form part of every disease.

neurogenic: Originating in nerve tissue, e.g., “the cause of the disorder is neurogenic.” Also *neuropathogenic*, the medical study of diseases of the nervous system.

neuromechanical: Relating to disturbances of the nervous system caused by mechanical or structural deviations of the body.

neuron: The nerve cell. The structural unit of the nervous system that contains processes, collaterals, and terminations.

neuropathogenic: A disease within tissue resulting from abnormal nerve performance, e.g., Barré-Liou syndrome, from neuropathogenic reflexes caused by patho-mechanics of the cervical spine.

neuropathy: Disease or abnormality of the nervous system. Any nerve disturbance from intersegmental or intervertebral areas, not a neurological deficit.

neurophysiological effects: A general term denoting functional or aberrant disturbance of the peripheral or autonomic nervous systems. The term is used to designate nonspecific effects related to motor and sensory functions of the peripheral nervous system, vasomotor and secreto-motor activity, and motor activity of smooth muscle from the autonomic nervous system. An extremity may become cool with increased sweating; there is trophic activity of both the peripheral and autonomic nervous systems, e.g., muscle atrophy in the neck, shoulder, or arms.

osteoporosis: Abnormal rarefaction of bone.

paravertebral: Beside the vertebral column.

paresis: Slight or partial paralysis; weakness of a motor origin.

paresthesia: Abnormal sensory awareness over a specific area usually associated with minimal radicular irritation and over a dermatome segment—burning, prickling, tingling, itching, etc.

patho-mechanical states: Joint patho-mechanics with structural changes, the scars of imbalanced motion and weight-bearing, trauma, and biochemical changes associated with aging and deficiency states. These tissues' changes may be revealed by static X-rays and biopsy, and definitely diagnosed with surgical exposure, e.g., arthrosis, spondylolisthesis, and disc degenerations.

peripheral: The Peripheral nervous system comprises the cranial nerves and the sympathetic nervous system.

pharyngoscope: Instrument for inspecting the pharynx.

plantar: referring to the sole of the foot.

plegia: Suffix used to describe paralysis or stroke.

plexus: Woven network of nerve fibers, blood vessels, and lymphatics.

polyposis: Many tumors or polyps on a part. *Polyp* is a growth protruding from the mucous lining of an organ, such as the nose; also called *polypus*.

polyneuritis: Inflammation of many nerves at once.

polypus: A pedunculated growth from a mucous membrane.

popliteal: Hollow area behind the knee joint.

postencephalitic: Following or occurring after encephalitis.

prophylaxis: The prevention of or protective treatment for a disease. That branch of applied biology that seeks to reduce or eradicate disease by removing or altering the responsible etiologic factors. - (1) Prevention of subluxations due to poor postural hygiene, physical fitness and faulty body mechanics. (2) Prevention of recurrence with follow-up care, e.g., exercise. (3) Many subluxations are not curable and become quiescent with treatments; therefore, follow-up care to prevent or postpone further pathology.

proprioceptor nerve: A sensory receptor, chiefly in muscles, tendons, and joints, which responds to stimuli arising within the organism. A sense organ that carries input or information from the deep tissues of the body, the muscles, tendons, joints, etc.

pseudo: Prefix meaning false, counterfeit.

ptosis: Abnormal and permanent lowering of an organ, especially drooping of the upper eyelid caused by muscle failure. May occur with third cranial nerve disease.

pyramidal system: An efferent system, motor in nature. These fibers arise within the anterior central gyrus of the brain. Some of them decussate, and others continue down or cross to the opposite side and are within the anterior horns forming the anterior motor cells. It permits purposeful movements.

quadriplegia: Paralysis of all four extremities.

radiculagia: Neuralgia of the nerve roots.

- radiculitis:** Inflammation of the spinal nerve root. Commonly causes pain over the distribution of a specific dermatome segment.
- radiculoneuritis:** Inflammation of root and nerve. These are accompanied by paresthesia, paralysis, muscular atrophy, and decreased or lost reflex response.
- radiculopathy:** Irritation of a nerve root, usually noninflammatory and nonspecific. Must be localized as to area, i.e., cervical lumbar. Used when neurological signs are normal, but pain radiates along a specific dermatome.
- receptor:** A highly specialized nervous-system information-gathering device. A nerve ending specialized to sense or receive stimuli.
- receptors, afferent:** Sensitive nerve endings that convey impulses from the outside to the central nervous system.
- receptors, efferent:** Nerve fibers that are motor in nature and are distributed to muscles and glands. They originate in the anterior columns of the spinal cord and brainstem and leave the system via their various respective foramina.
- reflex:** Designating an involuntary action or response, such as a sneeze or blink. An action resulting when a stimulus is carried by an afferent nerve to a nerve center and the response is reflected along an efferent nerve to some muscle or gland.
- reflex therapy:** Treatment to stimulate afferent impulses and evoke a given response, i.e., neuromuscular.
- retracing:** Sometimes, following adjustments, patients re-develop symptoms that have disappeared under previous treatment.
- rheumatoid arthritis (*atrophic arthritis*):** A degeneration of joints of unknown etiology, characterized by inflammation, proliferation of synovial membrane followed by necrosis, fibrosis, and loss of bone substance. May take one of several forms in the spine and pelvis, e.g., ankylosing spondylitis, characterized by an eventual ossification of the spinal ligaments. In Marie-Strümpell disease (ankylosing spondylitis) ankylosing usually begins at the sacroiliac ligaments and ascends the spine; the ligaments are involved but not the discs. In Bechterew's disease (spondylitis deformans) ankylosing usually begins at the costo-vertebral ligaments and descends the spine; the discs are involved, e.g., ossify. Still's disease—acute rheumatoid arthritis in children.
- sacroiliac:** Pertaining to the sacrum and the ilium; their articulation or associated ligaments. The sacroiliac region or cartilage; the joint between the hip bone and the sacrum.
- sagittal:** (1) Relating to the suture uniting the two parietal bones of the skull. (2) Pertaining to the longitudinal vertical plane that divides the body of a bilaterally symmetrical animal into right and left halves.
- scoliosis:** A side-bending curvature of the spinal column in which a series of vertebrae deviate from the normal axis accompanied by rotation of the bodies of the vertebrae; abnormal lateral curvature of the spine.
- scotoma:** An area of pathologically diminished vision within the visual field.
- short leg:** A congenital, pathological, or developmental leg deficiency leading to a syndrome.

soft-tissue technique: Manipulation of the muscles and fascia.

somatic: Of or pertaining to the body, especially as distinguished from a body part, the mind, or the environment; physical. Pertaining to the wall of the body cavity, especially as distinguished from the head, limbs, or viscera.

spasm: A sudden, involuntary contraction of a muscle or group of muscles.

spina bifida occulta: Failure of the neural arch to close in the posterior midline without protrusion of elements of the spinal canal.

spinography: A system of detection of subluxations by geometric analysis of radiographs usually taken in the weight-bearing position.

spondylolisthesis: Forward displacement of one vertebra over another, usually of the fifth lumbar over the body of the sacrum or of the body of the fourth lumbar over the fifth. Can be diagnosed only by oblique view.

spondylosis: Anterior marginal lippling, usually as the result of degenerative disc change and dehydration of the disc.

spondylotherapy: The therapeutic application of percussion or concussion over the vertebrae.

sprain: An overstretching or overexerting of the ligaments of a joint (including capsular tissues). History indicates a traumatic incident. Clinical features include pain on active or passive motion, relative lack of pain with isometric (motionless) contraction, pain originating in local ligaments, acute swelling, and chronic hypermobility. There are mild and moderate sprains. *Severe sprain* is a gross or complete laceration of joint ligaments characterized by a marked excess of joint motion indicating definite separation on motion and/or tension.

sprain and strain differentiation: *Sprain* involves the ligaments of a joint; *strain* the muscle and tendinous structures. Sprain usually elicits pain on movement of the joint affected even without muscle effort, and *strain* elicits pain on muscle effort even without joint movement, i.e., isometric contraction. Any tissues may be strained in injury. An individual may strain the lumbosacral joint, but the diagnostic condition is a sprain.

statics: That branch of mechanics that deals with the relations of forces that produce equilibrium among material bodies.

sternognosis: To recognize various shapes of objects by feeling them between two fingers.

steroid: Any of numerous naturally occurring, fat-soluble organic compounds having a 17-carbon-atom ring as a basis, and including the sterols and bile acids, many hormones, certain natural drugs such as digitalis compounds, and the precursors of certain vitamins.

strain: An overstretching of the muscle or tendinous structures produced by excessive isotonic or isometric contraction, overstretching, or a blow. Clinical features include pain on contraction, on active or resisted motion, and on stretching; swelling; and muscle hypertonicity. See *sprain*.

structural deviation: A mechanical displacement of a part of the body from its normal relationship to another part.

subjective findings: Designating a symptom or condition perceived by the patient and not the examiner. Proceeding from or taking place within the patient's mind.

subluxation: (1) What has happened to a vertebra that has lost its normal structural relationship with the one above and the one below it. It is a fixation of a vertebral joint within or slightly beyond its normal range of movement that causes irritation. (2) The alteration of the normal dynamics, or anatomical or physiological relationships of contiguous articular structures. (3) D. D. Palmer insisted that the word be applied to intervertebral disrelations amounting to less than a locked dislocation. He also maintained that there is a functional response within the nervous system resulting from this structural disrelationship.

supination: Applied to the hand, the act of turning or placing the hand or forearm so that the palm is upward.

supranuclear: Located on the cortical side of a nucleus.

sympathetic: That subdivision of the autonomic nervous system whose nerves originate in the thoracic and lumbar regions of the spinal cord and whose functions include the innervation of the smooth muscles, heart muscles, and glands.

syndrome: A set of signs and symptoms that collectively indicate or characterize a disease, a psychological disorder, or other abnormal condition.

synergic: Doing things in a normal rhythm or acting in harmony with one another.

synovitis: Inflammation of a synovial membrane. Tenosynovitis, capsulitis, and bursitis are all variations of this condition.

tendinitis: Inflammation of tendons or tendon-muscle attachments (more common to short tendons without a sheath).

tenosynovitis: Inflammation of tendon sheaths (more common condition than tendinitis, providing sheath is present).

tinnitus: A sound in the ears, such as buzzing, ringing, or whistling, sometimes caused by a defect in the auditory nerve.

tonic: Of or pertaining to tissue or muscular tension.

topognosis: To recognize various stimuli as applied to the body surfaces.

torticollis: A contracted state of the neck muscles producing an unnatural position of the head. Commonly known as a wryneck; a contraction of the cervical muscles causing a twisting or turning of the neck.

tetanus: Continuous tonic spasm of a muscle, steady contraction of a muscle without distinct twitching.

toxic: Harmful, destructive, deadly, and/or poisonous.

traction: A form of manipulation that stretches shortened ligaments and muscles and thereby increases range of movements of joints.

transillumination: The passage of light through body tissues for examination, the object or part under scrutiny being interposed between the examiner and the light source.

traumatic degenerative disc changes: Narrowing of the disc space as a result of sudden physical injury from destructive bone disease, dehydration, etc.

UMNL—Upper Motor Neuron Lesion.

unilateral: On or affecting one side, as one leg.

USR—Upper Spinal Reflex.

vertigo: Disorientation; a dizziness or feeling that the external world is revolving around the patient.

viscera: The internal organs of the body, especially of the thorax and abdomen, such as the heart, lungs, liver, kidneys, intestines.

viscero-spinal syndrome: Physiological changes in the viscera produced by irritation of spinal nerves.

INDEX

- Acupuncture, 105
- Activator method, 112, 130
- Ancient origins, 1
- Applied Kinesiology, 133
- Arthritis, 94, 170

- Barre'Lie'ou syndrome, 89
- Basilar impression, 90
- Bio-Energetic Synchronization Technique, 132
- Biofeedback, 166

- Cervical disc syndrome, 79; treatment, 81
- Cervical ribs, 91
- Cervigon, 169
- Chelation therapy, 106
- Chiroenergetics, 130
- Chiropractic Neuro-Biochemical Analysis, 135
- Cineradiography (CINE), 160–166
- Coccyx adjusting, 74–75
- Colon Irrigation, 142, 156
- Concept Therapy, 135
- Congenital block, 90
- Congenital lumbosacral conditions, 91
- Congenital narrowing of spinal canal, 91
- Congenital synostosis, 90
- Contour analysis, 109
- Contractile or sinusoidal currents, 154
- Coronary artery symptoms, 17
- Council on Chiropractic Education, 5
- Cox Disc Technique, 131
- Cranial adjusting, 111
- Craniopathy, 130

- De Jarnette Sacro Occipital Technic, 134–135
- Diapulse device, 104
- Diathermy, 138–139
- Dietary therapeutics (weight-control), 107

- Directional Non-Force Technic (DNFT), 133
- Discs, 69–70; thoracic, 72; lumbar, 74
- Down radiotherapeutic instrument, 104
- Dynamometer, 168

- Education, 5–9
- Electrical impulses, 103
- Electromyography (EMG), 169
- Endo-nasal therapy, 108, 135
- Ethics, 205–208; code, 214
- Examination (physical), 157–191
- Extremity adjusting, 110

- Fixation Analysis, 135

- Galvanism, 140, 153
- Glandular therapy, 106
- Glossary, 421–431
- Goniometer, 168
- Gonstead Full-Spine Method, 131
- Gynecology, 201–202

- Hair analysis, 108
- Herbology, 108
- Holistic healing, 107
- Homeopathy, 106–107
- Hydrocollator, 141
- Hypothermy, 140–141, 155

- Ilium: adjusting, 74
- Implied consent, 208–210
- Infrared/heat, 139, 150–151, 168
- Instrument adjusting, 111–112
- Intracranial pressure, 87
- Iontophoresis, 140
- Iridiagnosis, 106

- Kinesiology, 105
 Klippel-Feil syndrome, 90

 Laser devices, 105
 Leander Spinal Correction Method, 131
 Leg length, 76
 Logan basic technique, 112
 Lumbar disc lesions, 83–85
 Lumbar roll, 73
 Lumbarization of first sacra vertebra, 93
 Lumbosacral angle, 92

 Magnetism, 108
 Magnimensurator, 167–168
 Malpractice: elements, 219–220; how to avoid, 220–223; mental retardation, 226; colon, 226; upper respiratory condition, 226; vaginal disorder, 226; muscular dystrophy, 227; jaundice, 227; emotional disorder, 227; scoliosis, 227; cancer, 227; lower back pain, 227; excessive care, 229–245; cervical disc, 249–259, 260–263, 325–326; leg amputation, 259–260; paraplegia, 263–269, 270–273; facial paralysis, 269–270; brain stem trauma, 269–270; vertebral artery, 273–275, 322–323; 334–337; osteomyelitis, 275–278; subarachnoid hemorrhage, 278–281; brain abcess, 281–305; knee, 305–306; lumbar disc rupture, 318–321, 321–322; lumbar discectomy, 306–307; vertebral fracture, 307–311; brain stem lesion, 311–314; brainstem ischemia, 314–318; ruptured appendix, 322; rib fracture, 323; allergies, 323–324; breast cancer, 423; prostate cancer, 325; Hodgkin's disease, 325; spondylolisthesis, 326–329; cervical rotary adjustment resulting in death, 329–331; post-surgical fusion, 331–332; holistic regimen, 332–333; hip, 337; colon, 338; quadriplegia, 338–344.
 Massage, 110, 144
 Mears Technique, 134
 Mental health, 192–201
 Metabolic conditions, 96
 Micro-dynameter, 104
 Myelography, 95
 National Upper Cervical Chiropractic Association, Inc., 135
 Naturopathy, 107–108
 Nerve root compression, 80
 Neurosis, 96

 Obstetrics, 201–212
 Orthomolecular therapy: see dietary therapeutics
 Osteochondritis, 94
 Osteoporosis, 95

 Palmer, 2–3, 10
 Palmer Upper-Cervical Technique, 132
 Palpation, 75, 135–136, 167
 Pediatrics, 202–204
 Perianal Postural Reflex Technique, 136
 Philosophy, 3
 Pierce-Stillwagon Technique, 130
 Plemography, 166
 Polarity, 103–104
 Polarity Therapy, 133
 Posture analysis, 167, 179
 Pregnancy, 95
 Preventive care, 169
 Physiotherapy, 137–138, 146, 148
 Proctology, 201–202

 Reams Methods, 136–137
 Receptor-Tonus Method, 130
 Reflexology, 108
 Research sources, 350–370.
 Roling, 134
 Reflex hammer, 168
 Reinert's Procedure, 134
 Rotary adjustments, 38–69, 73, 98
 Rotational defects, 93

 Sacralization of fifth lumbar vertebra, 93
 Scientology, 201
 Sex therapy, 201
 Shoe supports, 141, 156
 Skin temperature, 76
 Spastic Muscle Research Bureau, 134
 Sphygmomanometer, 168
 Spina bifida, 93
 Spinal adjusting, 31–85; contraindication to, 86–102; risks and side effects, 102; unusual techniques, 143; auxiliary techniques, 143; standard techniques, 145
 Spinal canal: congenital narrowing, 93
 Spinal Column: anatomy, 19–30
 Spinal instability, 89–90
 Spinal Inversion Therapy, 138
 Spinal Sprains—treatment, 16–17
 Spinal Touch Treatment 136
 Spinal traction, 149

Spondylitis, 94
 Spondyloisthesis, 92
 Spondylosis, 89, 92
 State examination boards, 380–420
 Stressology, 131
 Structural Integration, 134
 Subluxations: spinal, 32–37; thoracic, 71; syndrome, 75; identification, 77–78
 Suggestive Therapy, 135
 Surgery: bloodless, 109; minor, 109–110

 Temporomandibular adjusting, 111, 133
 Tests, 184
 Thermography, 166
 Thermoscribe, 168
 Thompson Terminal Point Technique, 133
 Thoracic disc problems, 82
 Toftness System
 Transcutaneous Electrical Nerve Stimulation (TENS), 142

 Treatment records, 189, 190–191
 Tumors, 87

 Ultrasound, 140, 152
 Ultraviolet light, 139, 149–50

 Vapo-Coolants, 141
 Vascular problems, 95, 99–100
 Vertebral alignment, 76
 Vertebral arteries, 96–98, 273–275
 Vitamin (mega) therapy, 107
 Von Fox Combination Technique, 132

 Weight-control: see dietary therapeutics
 Whartenburg pinwheel, 168
 Work-Up, 157–191, 172–183

 X-Rays, 160–166, 185–187